LIBRARY
OF THE
UNIVERSITY
OF ILLINOIS

574.9
B22n
1914
v.1

OCT 11 1961

BIOLOGY

Digitized by the Internet Archive
in 2010 with funding from
University of Illinois Urbana-Champaign

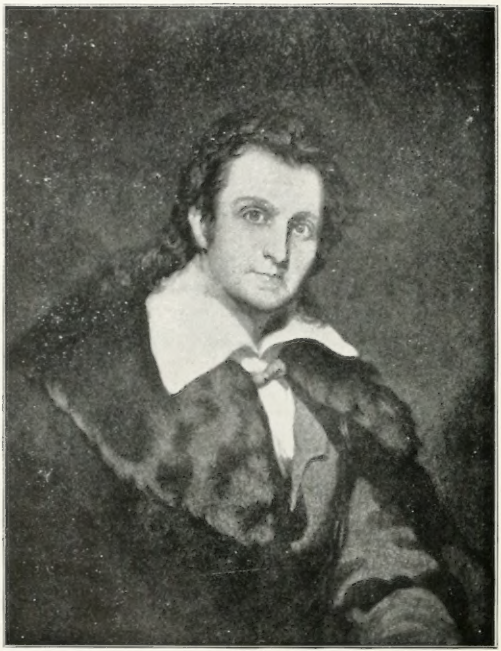
http://www.archive.org/details/natureneighborse11914bant

WOOD DUCK.
½ Life-size.

COPYRIGHT 1900, BY A. W. MUMFORD, CHICAGO

Nature Neighbors

JOHN JAMES AUDUBON EDITION
Limited to Two Thousand and Fifty Sets



John J. Audubon

FROM THE MINIATURE BY P. CRUIKSHANK, PUBLISHED BY ROBERT HAVELL,
January 12, 1835.

NATURE NEIGHBORS

Embracing

BIRDS, PLANTS, ANIMALS, MINERALS

In Natural Colors by Color Photography

Containing Articles by Gerard Alan Abbott, Dr. Albert Schneider, William Kerr Higley, Thomas Crowder Chamberlin, John Merle Coulter, David Starr Jordan, and Other Eminent Naturalists.
Edited by Nathaniel Moore Banta

Six Hundred Forty-eight Full-page Color Plates
Containing Accurate Photographic Illustrations in Natural Colors of Over Fifteen Hundred Nature Specimens

VOL. I—BIRDS

AMERICAN AUDUBON ASSOCIATION
CHICAGO

Copyright, 1914
By Nathaniel Moore Banta

EDITOR'S AUTOGRAPH COPIES

LIMITED TO TWO HUNDRED AND FIFTY SETS

NO. 247

Charles Beard

EDITOR

To

Nature Lovers

Nature, the old nurse, took
The child upon her knee,
Saying: "Here is a story-book
Thy Father has written for thee."

"Come, wander with me," she said,
"Into regions yet untrod,
And read what is yet unread
In the manuscripts of God."

And he wandered away and away
With Nature, the dear old nurse,
Who sang to him night and day
The rhymes of the universe.

And whenever the way seemed long,
Or his heart began to fail,
She would sing him a more wonderful song,
Or tell him a more marvelous tale.

— Henry W. Longfellow.

CONTENTS

CHAPTER		PAGE
I	How to Study the Birds	13
II	Suggested Exercises in Grouping Birds	25
III	Diving Birds	31
IV	Long-winged Swimmers	39
V	Ducks and Geese	57
VI	Wading Birds	89
VII	Marsh Birds	103
VIII	Shore Birds	121
IX	Quail, Grouse, Etc.	153
X	Birds of Prey	177
XI	Woodpeckers, Cuckoos, Etc.	213
XII	Goatsuckers, Humming-birds, Etc.	235
XIII	Flycatchers	253
XIV	Crows, Jays, Etc.	265
XV	Blackbirds, Orioles, Etc.	281
XVI	Finches, Sparrows, Etc.	303
XVII	Insectivorous Birds	357
XVIII	Warblers	377
XIX	Thrashers, Wrens, Etc.	419
XX	Creepers	435
XXI	Thrushes	451
XXII	Famous Foreign and Introduced Birds	467
XXIII	Eggs and Feathers	517

A FEW OF THE BIRD FAMILY

The Old Bob White, and chipbird;
The flicker and chee-wink,
And little hopty-skip bird
Along the river brink.

The blackbird and snowbird,
The chicken-hawk and crane;
The glossy old black crow-bird;
And buzzard down the lane.

The yellowbird and redbird,
The tom-tit and the cat;
The thrush and that redhead bird
The rest's all pickin' at!

The jay-bird and the bluebird,
The sap-suck and the wren—
The cockadoodle-doo bird,
And our old settin' hen!

—James Whitcomb Riley.

PUBLISHERS' PREFACE

There have been published recently so many excellent works upon the subject of Nature that it might seem presumptuous on the part of the publishers of *Nature Neighbors* to bring out such a work at the present time. The publishers have thought this matter over very carefully, and their answer is this:

"Shall the sparrow cease to sing
While mocking-birds are caroling?"

There is, however, at least one unique claim the publishers make for this work. There is no other work obtainable which contains the vast number of classified, accurate specimens in natural colors upon the subject of Birds, Plants, Animals, and Minerals of North America which can be purchased at a price within the reach of well-nigh all who earnestly desire it. It has been the aim of the publishers to present a work upon these subjects that would be highly acceptable to the average reader. Long technical descriptions, however desirable they may be to the specialist, are not to be found in *Nature Neighbors*. The descriptions of the various nature subjects here given average only about three hundred words each, and are generally gauged to the comprehension of the average grammar school or high school student; and by having an excellent natural color specimen of each subject treated, the information may be obtained quickly and accurately.

Over five hundred bird specimens are here illustrated true to life. These illustrations, together with the excellent descriptions, should prove a most desirable aid to the study and appreciation of birds. Our feathered friends, on account of their great economic value, are given a most important division of this work. In discussing this economic status of the birds Chester A. Reed says in his "Bird Guide":

PUBLISHERS' PREFACE

"The daily consumption of chiefly noxious insects in Massachusetts is twenty-one thousand bushels. This estimate is good for about five months in the year, May to September, inclusive; during the remainder of the year the insects, eggs, and larvae destroyed by our winter, late fall, and early spring migrants will be equivalent to nearly half this quantity. It is the duty, and should be the pleasure, of every citizen to do all in his or her power to protect these valuable creatures, and to encourage them to remain about our homes. The author believes that the best means of protection is the disseminating of knowledge concerning them, and the creating of an interest in their habits and modes of life."

Nearly one thousand color specimens of Plants, Animals, and Minerals are given. These, together with the bird specimens, and the interesting and instructive descriptions, ought to stimulate in the most dormant a love for the great out-of-doors.

The publishers believe with Dr. Albert Schneider that "the true object of nature study is to develop a love for all living things. This should, however, not be carried to extremes, for the universal struggle for existence makes this at best a cruel world. Wantonly killing or injuring any living thing should be condemned. The spirit should be promptly and intelligently discouraged and in its place a feeling of sympathy cultivated."

Should the reader of these volumes question the accuracy of the color plates, or the amount or quality of the text, let him wander out with Mother Nature where he will for himself discover

> "Tongues in trees, books in the running brooks,
> Sermons in stones, and good in everything."

CHICAGO, April 2, 1914.

Birds

ACKNOWLEDGMENTS

The publishers desire to extend their acknowledgment and thanks to the firms who have kindly permitted the use of material in this work: To the publisher, A. W. Mumford, for the articles from "Birds and Nature"; all unsigned articles from this source are marked with an asterisk; to the publisher, John C. Mountjoy, for the articles from the writings of Gerard Alan Abbott and Harold B. Shinn. All articles in the Bird Volumes, not otherwise accounted for, are written by Gerard Alan Abbott.

CHAPTER I

HOW TO STUDY THE BIRDS

All temperate North America is inhabited twelve months of the year by bird-life. Our feathered friends exist in greater numbers than most people suppose. It is desirable to commence observations about the first of the year, for in January, though our bird ranks are greatly depleted, the hardy winter residents may be observed with ease, as there is little foliage to obstruct the view. Inexhaustible patience, together with "bulldog persistence," is productive of the best results. We may become botanists or geologists with the realization that the object of our search exists in a given locality; but the bird student finds a constant change taking place in his field. The bird he desires most to examine becomes elusive and keeps him constantly on the alert.

A good pair of field or opera glasses are valuable in determining the colors or markings on various birds, but our chief aim is to learn how and where to look for a given variety.

One need not absent himself from inhabited sections in order to become acquainted with the common and many of the rarer birds. The average 200-acre farm with its natural timber and lake or water-course is an ideal spot for bird study. Birds, in their efforts to avoid their natural enemies, such as prowling mammals, birds of prey, and reptiles, are

inclined to seek rather than avoid the domains of man. You may be surprised to learn how many birds visit dooryards and orchards in the rural districts annually. Many are only migrants on their way to and from a more northerly latitude, but from ten to twenty-five varieties are common about our dwellings, orchards, and pastures.

Let the bird student who is to acquire a knowledge of bird life by observation avoid the society of other persons when going "birding." It may be interesting to have human companionship and want some one to share with you in the finds you hope to make. Usually the naturalist never lacks companionship simply because he is without the company of other people. To the lover of the prairies, water-courses, and timber lands — for such he must be to successfully acquaint himself with our feathered creatures — there can be no longing for companionship. The nodding flowers, swaying branches, rippling brooks, and breezy meadows all convey messages of their own.

Let us take for example a given area not to exceed fifty miles from Lake Michigan, anywhere within an imaginary line drawn from a point in southwestern Michigan through northern Indiana and Illinois, thence northward into southeastern Wisconsin. During January we have with us such birds as the downy woodpecker, white-breasted nuthatch, and chickadee, which are fond of each other's company, and quite likely to be observed together, moving about the trees in our dooryards, orchards, or woodlands. The noisy bluejays are more or less in evidence, and the ever-cautious crow visits the pastures and cornfields.

The evening grosbeak, pine grosbeak, Bohemian wax-

wing, redpoll, white-winged and red crossbills are at this season of the year wintering about the Great Lakes region, feeding in coniferous trees or on orchard buds, and often searching for wild berries and unpicked fruit. A few of our hardy goldfinches may be in the vicinity, and slate-colored juncos in company with tree sparrows are feeding on seeds in the weedy patches. In the open areas the Lapland and Smith's longspurs are busily feeding and calling to each other in their mellow notes. Horned larks, shore larks, and snowflakes are to be seen on the prairies or often about the barnyards when snow is deep.

Old hollow trees afford ample protection for the screech, barred, and horned owls. Occasionally a stray snowy owl from the far north is encountered. The hardy raven often reaches a latitude as far south as Illinois and Indiana, and at this time of the year is apt to be feeding along the shores of the lake looking for aquatic and land animals.

The northern shrike haunts the hedges and parks occupied by our quarrelsome English sparrow or busy tree sparrow. Bands of Canada geese are living on the open water. They collect there during the daytime and just before sunset we see or hear them moving in regular V-shaped flocks to the fields where they feed by night.

The grouse are very companionable at this season of the year; the prairie chickens and bob-whites congregate in immense flocks. The little bob-whites seek shelter among the rail fences or about the underbrush, while the prairie chickens frequent the fields. The ruffed grouse spend the day feeding on the ground, roosting by night in the trees, where no prowling animal may disturb them.

Herring and ring-billed gulls hover over the rivers and along the shores of the lake, looking for fish or decayed animal matter.

February brings no particular change except that other winter visitors may have arrived or some friends departed. Our true winter ducks are fishing on the open water. They are the old squaw, golden-eyed, white-winged scoter, American and red-breasted mergansers.

During the last ten days of February the great horned owl may be observed sitting upon her two white eggs deposited in an old hawk's nest or in a hollow tree. A few short-eared owls may be seen flying over the frozen marsh in search of rodents.

With our first week of March, several summer residents arrive, and during the month we may expect to see the song sparrow, bluebird, meadow-lark, robin, red-tailed hawk, mallard, woodcock, flicker, red-winged and rusty blackbirds, fox sparrow, bronzed grackle, phœbe, and others. The prairie horned lark is incubating her first setting of eggs.

April brings the purple martin, mourning dove, red-headed woodpecker, brown thrasher, Wilson's snipe, blue-winged teal, vesper, field, grasshopper, swamp, and Henslow's sparrows, towhee, and red-shouldered and sparrow hawks. The myrtle warbler, white-throated sparrows, and ruby and golden-crowned kinglets are in evidence among the underbrush and low trees.

The April rains and sun have taken the frost out of the ground and the warmth of May restores the foliage to our trees and shrubbery. With the unfolding of the leaves appear myriads of insects and worms. Our later birds now

arrive, including the brightly plumaged orioles, scarlet tanagers, rose-breasted grosbeaks, indigo buntings, and bobolinks. Our daintily attired warblers and retiring flycatchers are haunting the trees, and vireos are carefully inspecting the branches and leaf stems. More ducks, shore birds, and other waterfowl have arrived. The plover and yellow-legs are whistling, and the gallinules and rails call to each other from clumps of old rushes, which afford better protection than the young vegetation.

The phœbe, bob-white, woodcock, song sparrow, red-shouldered hawk, screech owl, mourning dove, bluebird, robin, bluejay, crow, brown thrasher, and towhee are all busily engaged in the duties of hatching their eggs and rearing their young. This is the season when birds in their ecstasy become less cautious, and afford splendid opportunities for observation.

You should arise before dawn, because with the first glimmer of daylight certain birds burst forth into song. Before the sun has risen, many voices may be heard on the meadows, in the woodlands, or about the marshes. Some birds found singing at this time of the year are silent during the day, but with the approach of twilight we are greeted with the carol of the wood thrush, the hymn of the vesper sparrow, and the cooing of the mourning dove. Night hawks are conspicuous, and, as the curtain of night falls, we hear the mournful cry of the owl and the weird note of the whip-poor-will.

In June nesting is at its height. The male birds are also in full song, but the opportunity for bird observation is not so good. Our feathered friends have more serious obliga-

tions and are now too preoccupied to devote much time to courtship, so we see less of the female. The males may be seen or heard regularly for the next two to four weeks.

Birds such as the prairie horned lark, killdeer, song sparrow, phœbe, bluebird, and robin are preparing to rear a second brood. Two weeks ago their first nests were occupied with eggs that hatched before many of our summer residents had returned from the South. If we venture into the meadows, through the orchards, or to the woodlands, many fledgelings are encountered. The parents are uneasy at our presence, and manifest their displeasure by showing little fear in their efforts to protect their offspring. The flycatchers, vireos, and thrushes are now sitting upon their eggs. These birds usually rear but one brood during a season.

The marshes are gradually drying up, and the few hollows which still contain water are attractive places for rails, herons, and bitterns.

In July the goldfinches act as vivacious as most birds do in May. Thistle down, now floating in the air, is used as a lining for their nests, while they largely subsist on the thistle seeds. By the middle of July our graceful swallows have completed household duties and are congregating along the marshes and lakesides. Flocks of tree and bank swallows often mingle and move over the marshy sloughs, alighting at sundown on the telephone and telegraph wires. Few birds sing during the heat of the day except indigo buntings, towhees, dickcissels, field sparrows, song sparrows, and robins. These birds are more domestic and prolific than swallows, and the duties of rearing a second family will consume the entire month.

The bobolink is losing his gay coat of black and white and buff, and is preparing for a raid upon the southern rice fields, where he will travel under the disguise of "ricebird." Less capable of flight while shedding his feathers, he retires to cornfields to molt, where he is afforded an unobstructed view on all sides as a protection against natural enemies.

August is the general month for molting. About the only birds demonstrative about nest-building at this late date are some of the goldfinches and cedar waxwings. Many of the latter have remained in flocks through the entire winter, spring, and early summer, but are now busy nest-building in some isolated orchard, shade tree, or evergreen. A walk through the timber, along the water-courses, and over fields will disclose little bird-life, as birds are naturally shy and evasive while molting. Their flight, even, is defective, so they remain within the shelter of heavy grass or brush. We may see a dozen wood ducks about some little lagoon or wooded lake, probably two adults and their offspring. Woodpeckers may be seen moving about in families, two redheaded woodpeckers guiding four or five immature birds which have not attained the scarlet headgear. Only during the early hours of morning do the birds show any animation. At that time we occasionally hear the song of a catbird, the call of a cuckoo, the note of a pewee, and the mellow twitter of a goldfinch as he darts back and forth, singing at every dip of his undulating flight.

This is a good month to examine and collect birds' nests. They have not long been exposed to the weather, because the foliage is still on the trees. Many nests are kept in their proper shape only by removing the twig, stem, or limb to

which they are attached. The weather is still more or less sultry, but we may venture into the damp or dark places without the annoyance of mosquitoes, gnats, and other insects which are so numerous during June and July.

With the arrival of September we see many new forms about our shade trees, gardens, and groves. They are not usually our summer residents in different plumage, but birds from a more northerly latitude. The warblers have begun their annual southward journey. Along the pebbly beaches and sandy shores hundreds of little waders are moving about in a systematic search for aquatic life. Many of them are marked differently than they were five months ago. During the interval they have visited the tundras and barrens about the Arctic Ocean, deposited their four eggs, reared their young, and are now feasting as they move by degrees to the South. Three months from now some of them will be hundreds of miles south of the equator.

Owls seek more open situations at this time of the year. They realize that the territory is populated by transients, and the time is to be improved by hunting in the open, where smaller forms of bird-life are so much in evidence. It is still possible to find an occupied nest of the goldfinch or cedar waxwing, though undoubtedly the birds have been accidentally delayed. The male goldfinch is losing his brilliant coat of black and yellow and is assuming a covering of dull greenish-black not unlike his mate. Great flocks of blackbirds, comprising red-wings, rusty blackbirds, and cowbirds, forage in the marshes and descend upon the grain fields. The graceful little terns called seagulls are moving leisurely southward along water-courses.

On the upland prairies large flocks of golden plover are feeding on wild berries, grasshoppers, and crickets. The birds have lost the handsome black breasts and there is nothing about their appearance to identify them, save their clear mellow whistle, or call-note, which they use when moving swiftly in compact flocks over our uncultivated land. As Helen Hunt Jackson says:

> "October the month of carnival of all the year,
> When Nature lets the wild earth go its way,
> And spend whole seasons on a single day."

With the fall or turning of the leaves in October we lose our insectivorous birds. Belated warblers are hurrying southward and occasionally a phœbe may be seen lingering about the nesting place, loath to leave the little bridge or old well with its past associations. As we walk through the dead leaves of the woodlands, willow, olive-backed, and hermit thrushes are startled from the ground and fly to the nearest branch of some leafless tree. Small flocks of white-throated, fox, or white-crowned sparrows are busily feeding in the fence corners. The junco has returned from the Canadian provinces and will remain with us until a mantle of snow forces him to seek food elsewhere.

Golden and ruby-crowned kinglets moving in company with brown creepers comprise a fearless trio while inspecting the trees on our lawns and in our parks. The little kinglets look twice as large as they did last April, the fluffed feathers offering more resistance to the October chill. The frosted vegetation in sloughs and bayous now exposes

many a gallinule, coot, and rail, where many are shot by pot-hunters lacking in sportsmanship.

The large cities are revisited by various forms of sea birds, providing there is a water frontage. During the late fall, winter, and spring months Bonaparte's, herring, and ring-billed gulls visit the shores of lakes and rivers, especially when these waters are navigable, to procure the refuse. Wilson's snipe is again on the marsh, where his flight taxes the skill of the best gunners.

November leaves us with a limited variety of birds, most of which are found in flocks. Robins still loiter in sheltered places and the hardy meadow-lark lingers about his favorite pasture. On a bleak morning we hear his merry chipper, which seems a protest against snow and ice. Flocks of mallards gorge themselves in the cornfields. The birds are then prepared for a continuous flight of two thousand miles, though they defer such journey as long as they can find open water nearer. We have the mallard with us from October to late in December. With January comes a general freeze-up of his feeding grounds, so he moves just far enough south to return at the first thaw in February. Many mallards reach Canada in March. Fifty years ago we had this noble game bird with us at least eleven months in the year. Great flocks of prairie chickens are now roaming the cornfields. Families have combined with others and these flocks join larger ones until hundreds of birds have banded together so to remain until April.

Field and tree sparrows are sheltered along the roadsides in the thickets and about truck gardens. A few large hawks, such as the red-tailed, goshawk, and rough-leg, are

in evidence. The two latter are migratory, but often spend the winter with us. The rough-leg is sluggish, his habits reminding one of an owl. The little screech owl calls weirdly through the long nights of November, when other bird voices are hushed. December causes the crows to "hustle for a living." Rather than migrate during severe weather they sometimes starve. One good word may be said here in behalf of the crow; he has never been known to eat the remains of his own kind, nor does he attempt to fight with his fellow birds over some morsel which he may have chanced to acquire.

This is a good time to set up a little "free lunch counter" for the birds by nailing a board to your window-sill or nearby tree. You will undoubtedly make friends with several sociable birds. Place a generous amount of corn, bread crumbs, and suet on this shelf, or the latter, if preferred, may be tied to a limb. Downy woodpeckers and white-breasted nuthatches are very fond of suet, and the nuthatch will usually prevail upon some chickadee to visit the same eating-place. Occasionally a bluejay or English sparrow will steal the larder intended for the other birds, thus justifying one in shooting them on sight.

Visit the woods on a cold December morning when snow is on the ground. You will be surprised at the friendliness of the chickadee. He even alights upon your head or shoulder, and will readily eat bread crumbs from your hand.

G. A. A.

CHAPTER II

SUGGESTED EXERCISES IN GROUPING BIRDS

Birds of the Dooryard

Bluejay, mocking-bird, house wren, robin, English sparrow, chipping sparrow, and chimney swift.

Birds That Feed on the Ground

The various grouse, also the plover. In addition to which we might add the roadrunner, mourning dove, bobolink, meadow-lark, horned lark, fox sparrow, English sparrow, dickcissel, crow, towhee, and brown thrasher.

Birds That Feed Among the Foliage of Trees and Bushes

The cuckoos, scarlet tanager, blue-gray gnatcatcher, and the kinglets.

Birds That Feed on Trunks of Trees

All the various woodpeckers and sapsuckers; in addition, we may add the black and white warbler, brown creeper, titmice, nuthatches, and chickadees.

Birds That Feed on the Wing

This comprises the swallows, including the purple martin; also the nighthawk and its relatives, the red-headed woodpecker, the ruby-throated humming-bird, cedar waxwing, the various flycatchers and vireos, and the terns.

Birds That Feed Around the Edge of Pools and Lakes

The various snipe, sandpipers, plovers, except the upland plovers; also woodcock, Louisiana water-thrush, and dipper.

Birds That Feed by Wading

The various herons, rails, and bitterns, with their near relatives; also the flamingo, the white ibis, the roseate spoonbill, the yellow-legs, and the long-billed curlew.

Birds That Feed While Swimming in Shallow Water

The various river ducks; also Canada goose, Wilson's phalarope, and avocet.

Birds That Feed by Diving for Fish

Include the loons, the grebes, the murres, the tufted puffin, cormorant, osprey, belted kingfisher, and the mergansers.

Birds That Feed on Mammals

The shrikes, owls, and hawks.

Birds That Feed on Carrion

The gulls, kittiwake, vultures, crows, raven, and magpie.

Birds That Lay White Eggs

As a rule all birds that nest in hollow trees or in deep burrows, where the eggs remain in the dark, lay white eggs. Following is a partial list: double-crested cormorant, white pelican, hooded merganser, bluejay, Canada goose, Wilson's

petrel, tufted puffin, various owls, bald eagle, passenger pigeon, mourning dove, various woodpeckers, belted kingfishers, bob-white, quail, phœbe, least flycatcher, goshawk, Carolina parakeet, purple martin, tree swallow, short-billed marsh wren, and ruby-throated humming-bird.

Birds That Do Not Construct or Use Any Nest

Brunnich's murre, turkey vulture, black vulture, whip-poor-will, and nighthawk.

Birds That Lay Their Eggs in Hollows or Nests Constructed by Other Species

Horned owl, screech owl, burrowing owl, barred owl, saw-whet owl, sparrow hawk, wood duck, hooded-merganser, bufflehead, American merganser, golden eye, cowbird, house wren, and tree swallow.

Birds Which Are Resident Throughout the Year in a Given Locality

The various grouse, crow, bluejay, Canada jay, Clark's nutcracker, the nuthatches, downy woodpecker, screech owl, horned owl, barred owl, the eagles, chickadees; some of the resident birds migrate for a short distance, so that in some cases, while we may have some species of bird throughout the year, it may be a different bird in winter and summer.

Birds With Conspicuous Red or Orange Plumage

This list is so easily compiled by consulting the pictures that no printed list is necessary.

Birds That Are White

White-tailed ptarmigan, snowy owl, common tern, caspian tern, kittiwake, ring-billed gull, and snowflake. Are all these birds white in both winter and summer? Do they differ from albinos?

Species Which Are Famous as Game Birds

The various ducks, including the Canada goose, plovers, snipes, and sandpipers, including woodcock, and grouse.

Sweetest Song Birds

Thrushes, including the veery and robin; also the dipper and brown thrasher, mocking-bird, ruby-crowned kinglet, rose-breasted grosbeak, the wrens, indigo bunting, meadowlark, bobolink, the sparrows, purple martin, Maryland yellow-throat, and yellow-breasted chat.

Birds With Crests and Topknots

This is so easily compiled that no list is necessary.

Birds Frequenting Barns and Outbuildings

Purple martin, barn swallow, phœbe, and cliff swallow.

Birds That Live in Our Orchards

Flicker, bluebird, orchard oriole, mourning dove, cedar waxwing, yellow-billed and black-billed cuckoos, and red-eyed vireo.

Birds That Frequent the Trees and Underbrush Along the Roadsides and Driveways

Baltimore oriole, kingbird, brown thrasher, loggerhead shrike, and least flycatcher.

Birds Frequenting Neglected Fields and Weed Patches

Slate-colored junco, tree sparrow, vesper sparrow, dickcissel, and goldfinch.

Birds That Live in Our Meadows and Pastures

Lark sparrow, grasshopper sparrow, bob-white, meadowlark, cowbird, and bobolink.

Birds Inhabiting Upland Prairies

Horned larks, prairie hen, upland plover, Savanna sparrow, Smith's longspur, and burrowing owl.

Birds That Live on the Timbered Hillsides

Red-headed woodpecker, crow, red-tailed hawk, screech owl, whip-poor-will, warbling vireo, red-bellied woodpecker, and scarlet tanager.

Birds Partial to Berry Bushes, Saplings and Small Willows

Indigo bunting, yellow warbler, song sparrow, field sparrow, fox sparrow, traill's flycatcher, golden-crowned kinglet, and towhee.

Birds That Are Partial to Evergreens

Bronzed grackle, pine warbler, cross-bills, blackburnian warbler, bay-breasted warbler, blue-headed vireo, and pine grosbeak.

Birds That Haunt Damp Grassy Places

Maryland and western yellow-throat, marsh wrens, swamp sparrow, and short-eared owl.

Birds Inhabiting Damp Underbrush

Woodcock, yellow-breasted chat, cardinal, rose-breasted grosbeak and redstart.

Birds of Damp Woodlands

Yellow-bellied flycatcher, olive-sided flycatcher, ruffed grouse, wood pewee, veery, wood thrush, black and white warbler, and ovenbird.

Birds Frequenting Our Timbered Lakes

Wood duck, hooded merganser, loon, tree swallow, crested flycatcher, Canada jay, and osprey.

Birds Frequenting Trees Along Streams and Lakes

Horned owl, sparrow hawk, prothonotary warbler, downy woodpecker, belted kingfisher, Louisiana water thrush and chickadee.

Birds Living About Open Ponds and Grassy Sloughs

Marsh hawk, mallard, blue-winged teal, pied-billed grebe and black tern.

Birds That Inhabit Open Swamps and Bogs

King rail, sora rail, Virginia rail, coot, Florida gallinule, bittern, least bittern, red-winged blackbird, yellow-headed blackbird, long-billed marsh wren, and black-crowned night heron.

Birds Frequenting Our Sandy Shores and Gravel Beaches

Spotted sandpiper, killdeer, piping plover, black-bellied plover, common tern, willet, and sanderling. G. A. A.

CHAPTER III

DIVING BIRDS

Six species of Grebes, or Lobe-footed Divers, are found within the limits of North America. Grebes are so aquatic that they seldom venture upon the land, where they are almost helpless, resting on the entire tarsus instead of toes. They dive and swim with such skill that they were able to escape the shot by "diving at the flash" of the muzzle-loading shotgun formerly in use. Various popular names are applied to show the skill of these birds in diving; they can swim with only the tip of the bill above water. They subsist largely on fish, which they are able to capture under the water, propelling the body by feet alone. The nests of the grebes are masses of decayed vegetation, which the birds gather beneath the water and arrange among the growing vegetation by anchoring to aquatic plants so that the nests rise and fall with the water.

The Loon family comprises five species in the Northern Hemisphere, three being found in the Great Lakes region. They are almost as aquatic as are the grebes. They visit the land only to nest, at which time they move by using the bills, wing, and feet, nesting so near shore as to slide noiselessly into the water. They capture fish, as do the grebes, by pursuing under water, progressing by means of feet alone.

The Murres, Puffins, Dovekies belong to the family

Alcidae, which numbers thirty species, all found in the Northern Hemisphere, most of them on the Pacific Coast. They pass most of their lives on the open sea. They nest in colonies, vast numbers frequenting cliffs. On land they are slow and awkward, but are good fliers, swimmers, and divers. In pursuing fish beneath the water they use wings as well as feet. Many of these lay but one egg.

HORNED GREBE

The Horned Grebe, often called Hell Diver, Die-dapper, or Water Witch, is frequently mistaken for the pied-billed grebe. A bird of central North America, occurring from the Atlantic to the Pacific, it is a common migrant in the Great Lakes region. It nests in northern Minnesota and in the lagoons of Manitoba and Alberta, and is found in the Devil's Lake region of North Dakota.

In 1900, while camping at Sweetwater Lake, North Dakota, I found holboells, pied-billed, and horned grebes inhabiting the grassy sloughs along low prairies. In the regions about the shores of the lakes one thousand western grebes were breeding in company with five hundred eared grebes. In general appearance and size horned and eared grebes are quite similar, the eared being the western form. While wading about among these floating nests of the grebes, the birds would dive, striking against my boots as they moved about beneath the water.

The notes of the grebes are shrill and penetrating, reminding one of the constant trilling of frogs and toads in the marshes in early spring. When hundreds of grebes

are calling constantly during the night, the sound is weird, but so in keeping with the desolate country as to be scarcely noticeable after a few days. It is an even tone pitched in a high key like the strident tones of a locust.

The birds lay from four to nine bluish-white eggs, which they cover with decaying vegetation, which soon stains them. When the eggs are thus covered the heat from the sun's rays and the decay of the vegetation produce a warmth sufficient to incubate the eggs without the presence of the bird; the grebes, however, often sit upon their nests, or at least remain close, to guard their treasures. When the young are hatched they may be seen riding on the backs of the old birds in the open water, but usually close to cover. At the approach of danger the old bird dives like a fish and arises to the surface many yards away, with the little fellows still clinging on.

PIED-BILLED GREBE

The Pied-billed Grebe, commonly called Hell-diver, Die-dapper, Dabchick, Water Witch, is often mistaken for the horned grebe. It ranges from Argentine Republic north to Hudson Bay and Great Slave Lake, breeding throughout the range.

Grebes are unexcelled as divers, as they swim and dive like a fish, and reach a depth of five or six fathoms. They are the most aquatic of all North American birds found in the interior, but are helpless on land, unable to walk or rise on the wing. Like other grebes, they rest on the tarsus while on land, as shown in plate. The toes are not connected by a web, as in the ducks, but each toe is equipped

with separate lobes, enabling the birds to propel themselves through the water, either on or beneath the surface, with great rapidity. They have no tail feathers.

The floating nest of decaying vegetation is anchored to the reeds or rushes in from one to five feet of water. The birds obtain the material for these floating nests from the bottom of the lakes and marshes where the nest is situated. It is estimated that the birds make two hundred trips below the surface to obtain the required amount of nesting material. The pied-billed arrives in the Great Lakes region in April, and may remain to breed around the lagoons and lakesides of Illinois and Indiana. A few pairs nest within the city limits of Chicago.

The writer's collection contains a nest of nine eggs taken June 18, 1902, in Cook County, Illinois. The eggs of all the grebes are immaculate when laid, but soon become badly nest-stained.

LOON

The Loon, or Great Northern Diver, is migratory through northern Illinois, although a few formerly bred in the Fox Lake region. Michigan and Wisconsin are favorite summer resorts for the loon, and many pass northward into Canada to breed. During the spring and fall loons abound on the Great Lakes, and are frequently caught in fish nets or on set lines which have been baited with minnows. One pair of loons usually reign supreme on each little inland lake among the northern woods.

They usually migrate by night, flying high. During the breeding season their weird notes echo among the pines

when all else is still. The cry of the loon is not unlike an outburst of maniacal laughter, hence we frequently hear the expression, "crazy as a loon." Like the grebes, the loons are practically helpless when on land, but are excellent swimmers and divers and strong direct fliers.

The nest is constructed near the water, often on a partially submerged muskrat house. Sometimes the two large eggs are laid on the bare sand or gravel just above the water's edge, so that it is possible for the parent to slip quietly from her nest into the water and swim rapidly to the farther side without exposing even the head. The eggs are dark olive green, spotted and blotched with brown.

TUFTED PUFFIN

The Tufted Puffin is a western species living on the Pacific Coast from California to Alaska. It also frequents the opposite shores of the same ocean, occurring in considerable numbers from Japan to Bering Strait. Four varieties of puffin are found in America.

The bills of the puffin are short, stout, and extremely broad vertically, with little horizontal width. The upper mandible projects beyond the lower, producing a resemblance to the parrot. A peculiar comb-like excrescence forms on bill at nesting time, a sex mark. The general color of the bird is black with a conspicuous white-faced mask; the long flowing yellow ear tufts are curved inward like the horns of a ram.

Aside from the gulls and terns, puffins are probably the uneasiest birds about their breeding grounds. When not

excitedly moving about the rocks, they are generally uttering their piercing notes, often more shrill than the scream of the gull. When the birds enter their burrows they may be heard uttering a sound not unlike a disturbed feline.

Puffins are sociable birds, found in the uninhabited portions of our sea coasts, where they deposit their single white egg in burrows. Both male and female assist in incubation. From the burrow containing the downy young the old bird may be removed with the hand, when the nestling is usually found clinging by the bill to the wing or tail feathers of the parent.

MARBLED MURRELET

Marbled Murrelets, as the name implies, are diminutive murres. There are several varieties, all making their homes on the Pacific Ocean, usually on the islands. Large numbers of this species are observed at Sitka, Alaska, and they inhabit the Aleutian Islands, where they reach their northern limit at their breeding grounds in this chain of remote islands, while the southern range is as far southward as Vancouver Island and the coast of British Columbia. They fly rapidly and swim and dive like a grebe, but seldom alight except in rocky places, where it is possible for them to launch into the air and eventually return to the water, for the legs of these birds are set so far back upon the body as to make them extremely awkward on land.

The eggs are deposited in holes made in the turf or sod overhanging the brow of a cliff. One and sometimes two eggs are laid.

FROM COL. CHI. ACAD. SCIENCES.

396

MARBLED MURRELET.
(Brachyramphus marmoratus.)
About ⅓ Life size.

COPYRIGHT 1931, BY
A. W. MUMFORD, CHICAGO

BRUNNICH'S MURRE

Brunnich's Murre ranges through the islands and along the coast of the North Atlantic and Arctic oceans.

Murres are aquatic birds and, like the auks and puffins, are eminently gregarious. This species is the only variety that reaches the interior of North America, as occasionally specimens are observed on the Great Lakes, where they have evidently strayed out of their course, perhaps have been carried from the sea coast by inclement weather. These birds are found usually on the Atlantic Coast from New York northward to the Arctic regions. Murres inhabit the islands throughout the Arctic Ocean off the coast of Asia and Europe.

In Europe they are robbed of their eggs for food. Each female deposits the single egg on the bare rocks, often without any protection from the elements. The eggs are remarkably well adapted to their surroundings, as they are thick-shelled, long and pointed, so that when disturbed the eggs do not roll off the cliffs, but simply describe the arc of a circle. Hundreds of birds may be found incubating within a radius of one hundred yards, sitting peaceably side by side in their congested quarters.

The eggs show marked variations; some are green with large black markings, others are pure white, still others are yellow with chocolate scrawls. This great variation in coloration may enable each bird to recognize her own egg. Clouds of birds may be seen circling not far from some huge rugged rocks jutting out into the raging sea, while uttering

a syllable which sounds exactly like "murre," from which they take their name.

These birds have many natural enemies, among them the various gulls, which have a habit of destroying the eggs whenever the parents are forced to leave them. These beautiful but thieving gulls actually carry these immense eggs in their mouths, flying to some remote part of the island or rocks, where they puncture the shell and devour the contents. In spite of enemies and in spite of the single egg laid, like so many of the diving birds, they maintain their numbers until killed off by man.

DOVEKIE

The Dovekie, commonly called Sea Dove or Little Auk, is a little fellow with short bill and legs, inhabiting the Atlantic Ocean from the Gulf of St. Lawrence northward. Dovekies probably do not breed south of Greenland; in winter they occur in New Brunswick, Newfoundland, and Labrador, becoming abundant off Exeter Sound and along the west coast of Baffin Bay.

Probably the most accessible breeding grounds are in Iceland. Many European bird lovers find that northerly spot much more accessible than any similarly located place to be reached from either side of the American continent. Iceland is a veritable bird paradise. Myriads of gulls, sea ducks, shore birds, and boreal land birds, such as the ptarmigan, gyrfalcon, and finches, haunt the bleak regions of this island. The dovekie deposits her single large pale-greenish-blue egg in crevices of the sea cliffs.

CHAPTER IV

LONG-WINGED SWIMMERS

Gulls and Terns belong to one family; about forty species of the one hundred known are found in North America.

Gulls are maritime and pelagic, though some are found inland. Gulls are larger and stronger than terns, though less graceful and active on the wing. The bills point forward and not downward in flight. They get food largely by skimming it from the surface of the water, or take it from the land, and do not plunge for it, as do the terns. They are largely scavengers, though some feed on small mammals and eggs and the young of other birds. Better swimmers than the terns, they spend more time resting on the water; they nest in colonies, usually on ground, sometimes on rocky ledges, and rarely in trees.

Terns visit the shores of salt and fresh water, especially salt. They are often called sea swallows because of their strong, graceful flight. They plunge after fish; in flight the bills point downward.

The order Tube-nosed Swimmers contain the greatest fliers. Petrels are closely allied to albatrosses, shear-waters, and fulmers. Petrels are pelagic, visiting land only to nest. They are strong, graceful fliers, and are noted for following ships.

Cormorants and Pelicans belong to the order of Totopalmate Swimmers, as all four toes are united by web. The

cormorants are found in all parts of the world, ten of the thirty species being found in North America. The double-crested cormorant is the most common in the United States. While usually maritime, some frequent bodies of fresh water. They are gregarious, often breeding in colonies. Flight is strong and duck-like, near the surface of the water, except when migrating. They dive for fish from the water, or dive from perch like the kingfisher, but not from the air.

Three species of pelican are found in North America, only one of which is found in the interior. Pelicans are gregarious, nestling in colonies. Their flight is strong but leisurely, several wing strokes being followed by a short sail; all birds of a flock flap wings and sail in unison. The peculiar feature is the large pouch used as a scoop-net in catching fish. Some species plunge for food, while others use the pouch while swimming.

KITTIWAKE

This medium-sized gull is supposed to take its name from the note, which is the shrill "Kit-ti-wake." Almost exclusively a seagull, we rarely meet with this species on our large inland lakes. They are boreal, and Mr. Peary, our Arctic explorer, found them breeding abundantly on the coasts of Greenland. They are common to the Atlantic waters of both Europe and America. In winter and early spring the cry of the kittiwake echoes along the rocky shore of the New England coast.

They do not nest upon the ground, like most other gulls, but resort to the rocky and almost inaccessible cliffs over-

627

KITTIWAKE.

185

AMERICAN HERRING GULL

Life-size

COPYRIGHT 1920, BY A. W. MUMFORD, CHICAGO

hanging the water. The famous Bird Rocks in the Gulf of St. Lawrence are probably the farthest south these birds breed, constructing substantial nests of grass and seaweed on inaccessible ledges. The ground color of the two or three eggs is yellowish buff or greenish gray marked with irregular spots of brown and lilac.

Frequently the birds nest in very close proximity to each other, resorting annually to the same filthy, guano-covered rocks. The Pacific kittiwake, inhabiting the northern coast of Northern America, breeding in Alaska, is the western form.

THE HERRING GULL*

The American Herring Gull is found throughout North America, nesting from Maine northward and westward throughout the interior, on the large inland waters, and occasionally on the Pacific; south in the winter to Cuba and Lower California. This gull is a common bird throughout its range, particularly coastwise. Colonel Goss, in his *Birds of Kansas,* writes as follows of the herring gull:

"In the month of June I found the birds nesting in large communities on the little island adjacent to Grand Manan; many were nesting in spruce tree tops from twenty to forty feet from the ground. It was an odd sight to see them on their nests or perched upon a limb, chattering and scolding as approached."

The young gulls grow rapidly. They do not leave their nesting grounds until able to fly, though half-grown birds are sometimes seen on the water that by fright or accident have fallen. The nests are composed of grass and moss.

Some of them are large and elaborately made, while others are merely shallow depressions with a slight lining. Three eggs are usually laid, which vary from bluish-white to a deep yellowish brown, spotted and blotched with brown of different shades. In many cases where the herring gull has suffered persecution it has been known to depart from its usual habit of nesting on the open sea shore.

It is a pleasure to watch a flock of gulls riding buoyantly upon the water. They do not dive, as many suppose, but only immerse the head and neck. They are omnivorous and greedy eaters, "scavengers of the beach, and in the harbors to be seen boldly alighting upon the masts and flying about the vessels, picking up the refuse matter as soon as it is cast overboard."

RING-BILLED GULL

The Ring-Billed Gull ranges throughout North America, being more common in the interior.

Of all gulls, not excepting the herring, this bird is the commonest on the inland waters. The herring is more abundant on the Atlantic. The southern portion of the Great Lakes and the Mississippi River from Minnesota southward to St. Louis are the winter haunts of the ring-billed gull. They are more commonly found along rivers than formerly, soaring in great numbers about refuse which may be found even in remote sections, sometimes fifteen to twenty miles from any large body of water.

During extremely cold winters the lagoons in our public parks sometimes freeze to the bottom; at the time of the spring thaw these birds feed on the frozen fish which are

LONG BILLED GULL

252

BONAPARTE'S GULL.
½ Life Size.

COPYRIGHT 1900, BY A. W. MUMFORD, CHICAGO.

gradually exposed by the melting ice. They frequently rob other water birds, as a merganser or a grebe. As these divers rise to the surface with a fish, the gull, with a dextrous swoop, seizes his prey and makes off with it. Sometimes the gulls so gorge themselves as to be seen flying away with a half-swallowed fish protruding from the bill. The birds are highly useful as scavengers and destroyers of insects.

Rude nests of hay, sticks, and grass are placed on the ground, usually on islands. Three buff, clay-colored eggs, spotted and blotched with brown, are laid in May.

BONAPARTE'S GULL

"This pretty little gull claims the whole of North America as its home, although it nests only north of the United States, apparently not quite to the Arctic Circle. This species is often common near streams and small bodies of water, large enough to furnish their food of fish. The three acres of the Oberlin, Ohio, waterworks reservoir, well within the city, is visited each spring by flocks which feed upon the half-domesticated fish found there. I have often seen flocks of twenty or more birds passing over plowed fields during the vernal migration, sometimes even stopping to snatch some toothsome grub from the freshly turned furrow, but oftener sweeping past in that lithe, graceful flight so characteristic of this small gull.

"To the farm boy, shut in away from any body of water larger than an ice-pond, where no ocean birds could ever be expected to wander, the appearance of this bird, bearing

the wide freedom of the ocean in his every movement, is truly a revelation. It sends the blood coursing hotly through his veins until the impulse to get away into the broader activities of life, to see something of the wide land known to this winged creature, cannot be put down.

"In flight they progress easily by continued leisurely wing strokes, each stroke seeming to throw the light body upward slightly as though it were but a feather's weight. In flight the watchful eye is turned hither and thither in quest of some food morsel, which may be a luckless fish venturing too near the surface, to be snatched up by a deft turn of the wings and a sudden stroke of the keen bill. Floating refuse also is gathered from the surface of the water while the bird is resting.

"It is only in the breeding plumage that this gull wears the slaty, plumbeous hood. It seems doubtful if the birds obtain the hood until the second or third year, when they are fully adult. But in any plumage there are some dark spots about the head.

"The nest is placed in bushes, trees, or on high stumps, and is composed of sticks and grasses, with a lining of finer vegetable material. The three or four eggs have the grayish-brown color, spotted and blotched with browns, which is characteristic of this group of gulls."

LYNDS JONES.

CASPIAN TERN

The Caspian Tern is the largest of the terns, and is readily recognized by the coral-red bill. Birds of wide range, they are extremely sociable, and not only nest in colonies, but

frequently in company with other long-winged swimmers, such as the herring gull or California gull. The Caspian terns frequently migrate at great heights and far from land, a course which they may pursue when traveling to their breeding grounds on the Atlantic or upper Lake Michigan, and thus their presence is little suspected by the casual observer in the Middle States.

Until the Audubon Societies patrolled many of the islands lying off the American coast or on the large inland lakes the eggs of the Caspian tern were used for commercial purposes. Fishermen gathered them in great quantities, and the birds, loath to leave their favorite islands, would continue laying well into the summer months, until they finally became discouraged and would move to another locality.

These birds present a beautiful sight as they circle over their eggs at the approach of some intruder, uttering their hoarse cries. Though web-footed and with an oily texture to the plumage, the birds seem more fond of flying than swimming. Their food consists of insects captured in the air and small fish which they capture by diving into the water while flying low over the surface.

During the last eight years the birds have greatly increased in numbers through rigid enforcement of the plumage law forbidding the selling in America of feathers of native birds. Several large colonies of Caspian terns appear on the islands in the Gulf of Mexico. Other colonies have taken possession of the islands on fresh water lakes in Oregon. The eggs are usually deposited in small hollows on the beach just above high-water mark. No attempt at

nest-building is made. Two or three clay-colored eggs are laid, thickly spotted with brown of varying shades.

THE FORSTER'S TERN*

The range of Forster's Tern may be considered as covering North America in general, "breeding from Manitoba southward to Virginia, Illinois, Texas, and California." In winter it passes southward into Central America and to Brazil. It is the common tern of the Mississippi Valley and is quite abundant on the larger inland waters as far north as Manitoba. It is far from common along the Atlantic Coast, excepting at Cobb's Island, Virginia, where it breeds in numbers, though the individuals of this species were not as numerous as were those of the common or Wilson's tern.

In appearance, as well as in its habits, Forster's tern resembles the common tern. The two species may, however, be distinguished by the color of the outer tail feathers, those of Forster's tern having the inner webs darker colored than the outer webs, while the reverse is characteristic of the same feathers in the common tern. The two species may also be distinguished when on the wing by the peculiar grating note of the Forster's tern, the sound of which has been likened by Dr. Ridgway to the "sonorous qua-a-a of the logger-head shrike."

Forster's tern breeds in colonies and also in company with other terns and with gulls. Its nest, of flags and various water plants, is usually built in grassy marshes. The old birds are very watchful and carefully guard their nests, eggs, and offspring. When disturbed at their nests they

FORSTER'S TERN.

SAUNDERS
½ Lifesize

become very noisy, "uttering a grating, monotonous note." It is said that at times, in their frenzy they fly at an intruder, often approaching very close to his head.

In the winter the plumage of this beautiful tern shows a decided change. The head becomes white, more or less spotted with black: the eye is enclosed by a large black area: the bill becomes black and the feet brownish.

COMMON TERN

The Common Tern, often called Wilson's Tern, sea swallow, red shank, summer gull, and mackerel, is often confused with arctic tern and Forster's tern. This beautiful little sea swallow was first reported by Wilson, one of our earliest ornithologists. Formerly abundant, this bird is now threatened with extinction unless protected from plumage and egg hunters. These terns perform extensive migrations, passing the winter months on the coasts of South America, often far below the equator. In summer they may be found breeding on the islands of the Great Lakes in company with herring gulls and Caspian terns.

The birds are as agile on the wing as our barn swallow, and capture many flying insects. They also feed upon marine life, but refrain from playing the role of scavenger, leaving the gulls to devour any decaying animal matter.

Hundreds of terns may be found nesting together, depositing their three eggs in a carelessly constructed nest of dry grasses on the pebbly beach or rocky projections just above high-water mark. Quite a commotion prevails when the naturalist intrudes upon their breeding grounds; the

birds rise like a cloud and fly about in majestic circles, screaming persistently until the trespasser leaves.

Early in June three eggs are laid, varying greatly in shape and color; the background is light green, buffy or drab, spotted and blotched with various shades of brown and lilac. The young are able to care for themselves as soon as hatched.

BLACK TERN

The Black Tern, the only dark-plumaged member of the gull or tern family inhabiting the interior portions of North America, breeds from the Gulf of Mexico to upper Canada and from the Atlantic to the Pacific coast, nesting even within the corporate limits of Chicago.

While gregarious, they are found in smaller groups than most of our long-winged swimmers. Largely insectivorous, they capture their prey in the air. They also plunge into the water after small minnows and other marine life. Although the feet are webbed, these birds seldom swim, except, perhaps, when migrating across large bodies of water. Their call note is a harsh shriek, uttered incessantly if one intrudes upon their nesting sites, usually in marshy places, preferably open country free from timber.

The nests are constructed of decayed vegetation, dead flags, and rushes, often a mere depression on a partially submerged muskrat house, containing two or three dark-yellowish eggs, heavily and thickly blotched with shades of lilac and very dark brown. These birds have a habit of rolling their eggs in the wet earth and vegetation, thereby rendering them less conspicuous. I have known the birds

BLACK TERN.
Male and Young with Eggs ¼ Life size

to arrange a little nest on the top of an old grebe's nest. Often the water is several feet deep where the nests are made, but the growing reeds and rushes allow the water to remain more or less stagnant, so the eggs are seldom disturbed by waves.

WILSON'S PETREL

The sailors have always harbored a friendly feeling for these sea-loving birds. They tell you that Mrs. Carey lives on the edges of the seas and the petrels are her chickens, hence they are frequently called Mother Carey's chickens.

Two species of petrel are common to the North American coast. Probably at least a dozen other forms have been recorded on our continent, as the petrels are great wanderers and frequently stray out of their course. The feet are webbed and the wings are long and powerful. The flesh is so oily that the plucked body of a petrel, supplied with a wick similar to that of a candle, will burn for over an hour.

Petrels feed from the surface of the water, picking up food while swimming or while on the wing. They seem to delight in following vessels at sea to pick up the refuse matter thrown overboard as they fly close to the water. They also follow the breakers, often seizing an unfortunate crab or crawfish that is cast up by the waves.

Wilson's petrel resorts to islands in the Southern Hemisphere during the breeding season. The single white egg, sometimes faintly wreathed with dull lavender, is incubated at the end of a three-foot burrow. The tube-nosed swim-

mers lay but a single egg. When disturbed on their nests they emit an oily substance from their crops very disagreeable to the intruder.

THE YELLOW-BILLED TROPIC BIRD*

In appearance this bird resembles a large tern and its habits are similar to those of the terns. Intertropical, it is of a wandering disposition, breeding on the islands of mid-ocean thousands of miles apart. It is noted for its elegant, airy, and long-protracted flight. Davie says that on Bourbon, Mauritius, and other islands east and south of Madagascar it breeds in the crevices of the rocks of inaccessible cliffs and in hollow trees. In the Bermuda Islands it nests about the first of May in holes in high, rocky places along the shores. Here its favorite resorts are the small islands of Great Sound, Castle Harbor, and Harrington Sound. The Phaeton, as it is felicitously called, nests in the Bahamas in holes in the perpendicular faces of cliffs and on the flat surfaces of rocks. A single egg is laid, which has a ground color of purplish-brownish white, covered in some specimens over almost the entire surface with fine reddish chocolate-colored spots.

These species compose the small but distinct family of tropic birds and are found throughout the tropical and subtropical regions of the world. Long journeys are made by them across the open sea, their flight when emigrating being strong, rapid, and direct, and immense distances are covered by them as they course undismayed by wind or storm. In feeding, Chapman says, they course over the water, beating

From col. F. M. W[illegible]

YELLOW-BILLED TROPIC BIRD
¼ Life-size.

Copyrighted by
Nature Study Pub. Co., 1897 Chicago

ANHINGA OR SNAKE BIRD

back and forth at a height of about forty feet, and their long, willowy tail feathers add greatly to the grace and beauty of their appearance when on the wing. They are of rare and probably accidental occurrence on our coasts.

THE ANHINGA OR SNAKE BIRD*

The Snake Bird is very singular, indeed, in appearance, and interesting as well in its habits. Tropical and subtropical America, north to the Carolinas and southern Illinois, where it is a regular summer resident, are its known haunts. Here it is recognized by different names, as Water Turkey, Darter, and Snake Bird. The last mentioned seems to be the most appropriate name for it, as the shape of its head and neck at once suggest the serpent. In Florida it is called the Grecial Lady; at the mouth of the Mississippi, Water Crow, and in Louisiana, Bec a Lancette. It often swims with the body entirely under water, its head and long neck in sight like some species of water snakes, and has no doubt more than once left the impression on the mind of the superstitious sailor that he has seen a veritable sea serpent, the fear of which led him to exaggerate the size of it.

As a diver the snake bird is the most wonderful of all the ducks. Like the loon, it can disappear instantly and noiselessly, swim a long distance, and reappear almost in an opposite direction to that in which naturally it would be supposed to go.

The nests of the anhinga are located in various places, sometimes in low bushes at a height from the ground of

only a few feet, or in the upper branches of high trees, but always over water. Though web-footed, it is strong enough to grasp tightly the perch on which it nests. This gives it a great advantage over the common duck, which can nest only on the ground. Sometimes snake birds breed in colonies with various species of herons. From three to five eggs, bluish or dark-greenish white, are usually found in the nest.

DOUBLE-CRESTED CORMORANT

Cormorants, sometimes called water turkeys, are similar in construction to our pelicans, but the loose skin on the throat is comparatively inconspicuous, while the pelican has a pouch capable of great distension. The sea coast of America, particularly the Pacific, is the home of many cormorants of several varieties, but the double-crested is practically the only inland species, occurring from Illinois and Iowa northward into Canada during the breeding season. They are gregarious at all times, even nesting in colonies. Twenty-five years ago this large bird appeared in the river bottoms of the Illinois, but the timid creatures retire at the encroach of civilization. Cormorants have all four toes connected by a continuous web. The tail feathers are long and stiff, and the birds use this appendage in progressing underneath the water, where they capture fish. Like ducks, the cormorants in flight extend the neck and legs to their full length.

Of the thirty varieties of cormorants inhabiting the globe, one-third are American. When disturbed the cormorants fly at low altitudes, usually over the water. Their

DOUBLE CRESTED CORMORANT

420

PRANTI'S CORMORANT

bills are strong and decidedly hooked; this assists them in holding their prey. Unlike the gannets, cormorants do not dive from the air, but from the water or a low perch.

On the barren islands of Devil's Lake, North Dakota, the double-crested cormorant still nests in company with the ring-billed and herring gulls, Canada goose and white pelican. These islands are a paradise for the bird student. On approaching these densely populated areas the wary cormorants are the first to leave their nests. No sooner do they vacate their posts than the thieving gulls descend upon their nests and destroy their eggs.

Cormorants incubate in relays and never vacate their nests except at the approach of man. In Canada, nests are frequently constructed in rocky places overlooking the water. The nests are of sticks, and contain from three to five chalky eggs with a covering showing faint blue.

BRANDT'S CORMORANT

Brandt's Cormorant, the bird of our illustration, is found on the Pacific Coast from the State of Washington southward to Cape St. Lucas, at the southern extremity of Lower California. In its habits it is gregarious and collects in great numbers wherever its natural food of fish is plentiful. These flocks present a very odd appearance, and their long necks appear as numerous black sticks on the watery background.

The nests are nearly circular when placed on top of the rocks, and are usually constructed of eel grass. They are generally placed in the most inaccessible places and

at various heights above the surface of the water. The cormorants frequent the same locality from year to year, and experience considerable difficulty in constructing their nests because of the gulls, which frequently carry away the material as fast as it can be gathered. The young, when first hatched, are entirely devoid of plumage, and their skin resembles a "greasy, black kid glove." It is said that the gulls feed upon these young birds.

Mr. Frank M. Woodruff relates the following observations, made during a recent trip to California. He says:

"The Brandt's cormorant is the common species wintering in southern California. Like the California brown pelican and the surf ducks, only the juvenile birds are found in the bay close to the city of San Diego. The birds are perfect gluttons, and as I lifted it into the boat there dropped from the gular sack of one specimen that I shot over twenty small fish. The beautiful iridescence of the dark copper-green plumage of the adult cormorant can only be appreciated when the freshly killed bird is seen." SETH MINDWELL.

WHITE PELICAN

This bird is common to entire temperate North America. It is one of the largest of our waterfowl, inhabiting both fresh and salt water. Like the brown pelican, this species is decidedly gregarious. Professor Jones says: "The birds travel sixty miles to catch fish for themselves and young. They often vomit up the contents of their stomachs on the ground, where it quickly decays." The stench of the rookeries is almost intolerable.

AMERICAN WHITE PELICAN.
(Pelecanus erythrorhynchos.)
Vieill. & Lebesse.

These birds summer at Great Salt Lake, Utah, and on several of the large inland lakes of Oregon. I noted a colony of approximately seventy-five birds at Sweetwater Lake, North Dakota. These are probably the only colonies which remain in the United States proper. Shoal Lake, Manitoba, is one of their favorite nesting and breeding grounds.

The flight of the pelican is picturesque. Being heavy birds, they rise from the water with difficulty, using their feet in ascending. A flock of perhaps twenty-five birds will mount into the air during the heat of the day and circle about until they appear like mere specks against the sky.

The plumage of the adult birds is pure white with the exception of a portion of the wing which is black, which color shows in marked contrast when the birds are soaring.

Two or three eggs are deposited in a large, bulky nest of grass, sticks, and rubbish. The thick, white shells have a chalky texture, but are soon stained with nesting material.

CHAPTER V

DUCKS AND GEESE

We have three classes of ducks. The Mergansers, or Shelldrakes, are fish ducks. Both the upper and lower mandibles are deeply notched with barbs, which enable the birds to capture fish while swimming with great rapidity beneath the surface of the water.

Fresh Water, or Pond and River, Ducks possess broad strainer bills, and the fourth or hind toe is without any lobe. These are the mallard, teal, shoveller, baldpate, pintail, wood duck, gadwall, and black duck. This family feed or dip in shallow water or wade about the margins of pools and ponds. They are all game birds, and are more edible than the deep-water ducks.

Sea, or Deep-water, Ducks have a conspicuous flap on the hind toe. While possessing a strainer bill, they feed less upon vegetable life than the pond ducks, and are partial to small fish and other marine life. They occur both on the coasts and in the interior. The redhead, canvas-back, scaup, bufflehead, old squaw, harlequin, eider, scoters, and ruddy ducks are all classed as sea ducks. The speculum, the bright feathers on the wing, is the same for all seasons and all ages of the same kind of ducks.

Geese are larger than ducks, and more graceful upon land. They also differ from the ducks because the plumage of geese is practically the same in both sexes.

RED-BREASTED MERGANSER

The Red-breasted Merganser ranges throughout the northern part of North America, breeding from northern Illinois and New Brunswick to the Arctic regions, wintering from southern United States to Cuba.

The red-breasted merganser inhabits Europe, Asia, and America, breeding on the British Isles, Iceland, Greenland, Labrador, Alaska, and the Magdalen Islands in the North Atlantic. During the fall, winter, and spring months they frequent the waters of northern Illinois and Indiana; in March and April they resort to the lagoons of Lincoln Park, Chicago, and feast upon fish, exhibiting at times but little fear of man. The bold, venturesome gulls lurk about the lagoons, and when a merganser arises with his prize, a gull swoops down and in the twinkling of an eye robs the duck of his morsel. The three mergansers, the red-breasted, American, and hooded, generally known as fish ducks, shelldrakes, or sawbills, frequent swift running streams, ponds, and lakes, where they feed almost exclusively upon fish, which they pursue and capture under water. Their deeply barbed bills are especially adapted for catching and holding fish, which the birds bring to the surface before swallowing.

The legs of all fish ducks are placed far back on the body, enabling their owners to outswim the other ducks. They frequently rest upon logs and stumps of trees found in or near the water. The hooded mergansers are the only sawbills whose flesh is at all palatable, and they are

RED-BREASTED MERGANSER

HOODED MERGANSER.

COPYRIGHT 1905, BY A. W.

the handsomest of the tribe, the males rivaling the wood and harlequin ducks in beauty. So they are not only slaughtered by the sportsmen, but they are also sought by the taxidermist and plume hunter, consequently are becoming scarcer.

Among brushwood, boulders, and grass, near the water's edge, often on islands, the female merganser constructs a bulky nest of grass, leaves, and stems, lined with a moderate quantity of down and feathers; from six to twelve dark drab eggs are laid, having a greenish or reddish tinge. The beautiful male deserts his mate while she incubates the eggs and cares for the young.

Mr. Chamberlain says: "I paddled after a brood one hot summer's day, and though several times they were almost within reach of my landing net, they eluded every effort to capture them. Throughout the chase the mother kept close to the young birds, and several times swam across the bow of my canoe in her efforts to draw my attention from the brood."

HOODED MERGANSER

The Hooded Merganser ranges and breeds throughout America generally, wintering in Cuba and Mexico. It breeds only sparingly throughout the United States and southern Canada. Unlike most of our ducks, it is not gregarious at any season of the year.

The hooded merganser is the smallest of the three fish ducks common to America. The males are handsome birds with a conspicuous black and white crest. Our first impres-

sion of a male hooded merganser is that of an extremely large-headed bird, so close and thick is the hood of white distinctly bordered with black. The hood disappearing after nesting season, it is then often mistaken for the red-breasted merganser.

They feed by pursuing and capturing fish and other marine life beneath the water. They manifest a decided preference for fresh running water, and are regularly observed along the rivers of Wisconsin, Illinois, Indiana, and Michigan.

Like the other mergansers, the birds avoid the marshes during the breeding season, and select a hollow stub or log in which to deposit their eggs. Frequently this cavity is in a tree growing in or near a secluded spot along some woodland watercourse. Like the wood duck, the entrance to the nest appears too small to admit the bird's body. The writer has witnessed a female merganser fly directly into a cavity containing her nest and eggs, without alighting at the entrance.

The shell of the pure white eggs is extremely thick. The writer has thirteen taken in April in Montana. The bird had removed considerable down from her breast, and this was placed about the eggs, which enabled them to incubate during the absence of the parent.

MALLARD

The Mallard, or Greenhead, is a large, handsome duck, common during the migrations to all temperate North America, from the Atlantic to the Pacific; nesting usually

MALLARD DUCK

BLACK DUCK
$\frac{1}{10}$ Life-size.

in the northern United States and northward, wintering in southern United States. A few remain and breed about isolated sloughs in the prairie sections of Illinois and Indiana. The female has the same quack as that of our domestic duck, which has descended from the mallard and readily crosses with it.

The mallard is distinctly a fresh-water duck, feeding usually by dabbling or dipping in shallow water. In the fall, great flocks of these birds descend upon the grain fields and gorge themselves. They are hardy birds, often remaining in the middle United States until late in November, returning during the first thaw in February. It is abundant, and a great favorite with the sportsmen.

Ten bluish-white eggs of this duck are in my collection, from Sweetwater Lake, North Dakota. They were taken June 11, 1900, from a nest of down and feathers, in a slight hollow of the earth, amidst a thick growth of underbrush extending out into the lake.

BLACK DUCK

The Black Duck, often called black mallard, black English duck, and dusky duck, is similar in habits and size to our common green-head mallard; the latter, however, has a much wider range. The black duck is rare west of the Mississippi, occurring usually in the East, from the Atlantic Coast through the New England States, Quebec, Ontario, and along the east coast shores of Lake Michigan.

They are among our slowest flying ducks, traveling about forty-five miles an hour, while teal and canvas-back

ducks attain a speed of one hundred miles an hour. Unlike most ducks, the plumage of the sexes is similar.

The black duck often interbreeds with the common green-head mallard, but are less popular than the green-head as a game bird. The female quacks, and the male utters a low nasal note. These birds usually inhabit shallow water, open marshes, little streams, and small fresh-water lakes. The winter range extends along the coast of Florida, the Gulf States, and the waters of Mexico.

While breeding usually north of the United States, they are fairly common in the wet sections of Maine. Seven to twelve eggs are laid, varying in color from pure white to light green. The nests are placed in grassy spots close to the water, and lined with a liberal amount of dark down.

THE GADWALL*

The Gadwall, Gray Duck, or Creek Duck, has a very extensive range, including the temperate zones of both the eastern and western hemispheres. It inhabits the British Isles and breeds in Norfolk County, England. In Holland it is abundant, and in the fall is one of the most common ducks to be found in the market.

In North America the gadwall is confined chiefly to the interior, and Florida and Georgia are the only States on the Atlantic Coast in which it occurs in any numbers. Along the Pacific Coast they are common residents of California. Many of these ducks pass the winter about the Gulf of Mexico, in Central America, and in the West Indies. It is quite common throughout Illinois, is rarer

GADWALL.
(Anas strepera)
Natural size.

NEST OF THE GADWALL DUCK.

(Anas strepera.)

BALD-PATE DUCK.

COPYRIGHT 1911, BY A. [illegible]

in Indiana, and in the upper and lower peninsulas of Michigan it is found in considerable numbers. It is likely to be found breeding anywhere within its range.

The general appearance and habits of the gadwall are quite similar to those of the mallard, teal, and widgeon. The latter name (widgeon) is indiscriminately applied to the three species: the gadwall, the baldpate, or American widgeon, and the European widgeon. All three varieties inhabit both the old and new worlds. The females and immature birds of the three species are often confused with each other. This is especially true of the baldpate and European widgeon.

The dress of the gadwall appears very sober when compared with our other ducks, the majority of which are noted for their beautiful plumage.

Its food consists of both animal and vegetable matter, which is obtained from the surface of shallow lagoons and ponds. While feeding, the body is often partly submerged, as the birds probe about under the water. It seems to feed throughout the day.

Authorities differ regarding the note of the gadwall, but in my experience I have found them rather silent, occasionally uttering a few shrill "quacks" similar in tone to that of the mallard.

BALDPATE

The Baldpate ranges throughout North America, breeding in the interior, from Minnesota northward, wintering in Central America and northern South America.

The baldpate, or American widgeon, is a common spring

and fall migrant in the Mississippi Valley. Though less popular and conspicuous than many other game birds, it is a delicately marked species.

The habits of these ducks are similar to those of the gadwall and teal; they enjoy mud flats and grassy ponds, feeding on vegetation, aquatic insects, and molluscs. Especially fond of wild celery, but not good divers, they often procure it by snatching morsels from canvasbacks and other diving ducks, the instant their heads appear above the water.

On June 18, 1900, while searching in the buck-brush on the bank of Sweetwater Lake, North Dakota, the writer flushed a female baldpate from a nest of nine beautiful flesh-colored eggs, well hidden in a quantity of down and leaves.

GREEN-WINGED TEAL

The Green-winged teal ranges throughout North America, breeding from Minnesota northward, wintering from Kansas and Virginia southward to the West Indies and Central America.

In size and general appearance, this duck closely resembles the blue-winged teal. The main difference is in color of speculum, or bright patch on wing; the habits, too, are similar.

The range of the green-winged is more northerly than that of the blue-winged, which frequently nests in the central parts of the United States. The green-winged is one of our handsomest fresh-water ducks. It is capable of flying with the wind at a speed of one hundred miles

RED-WINGED TEAL

BLUE WINGED TEAL

an hour, the wings making a loud whistling noise. They feed in shallow water or wade about the shores of our inland ponds and lakes. Being practically surface feeders, and living often on wild grass seeds of the marshes, their flesh is second to that of no other duck in tenderness and flavor.

The green-winged remains in the Great Lakes region until the waters freeze, when our handsome blue-winged is many hundred miles farther south. It also reappears in the spring several weeks in advance of our other teals. The northern portions of central Canada are the favorite breeding grounds of this beautiful duck. Occasionally, however, it remains in the famous wild-fowl region about Devil's Lake, North Dakota.

The writer has ten pale ashy-green eggs taken in North Dakota from a nest which was in a tussock of coarse grass on dry ground, but close to the water's edge.

THE BLUE-WINGED TEAL*

So many names have been applied to this duck that much confusion exists in the minds of many as to which to distinguish it by. A few of them are blue-winged; white-face, or white-faced teal; summer teal, and *cercela comun* (Mexico). It inhabits North America in general, but chiefly the eastern provinces; north to Alaska, south in winter throughout West Indies, Central America, and northern South America as far as Ecuador. It is accidental in Europe.

The Blue-winged Teal is stated to be probably the most numerous of our smaller ducks, and, though by far

the larger number occur only during the migrations, individuals may be found at all times of the year under favorable circumstances of locality and weather. The bulk of the species, says Ridgway, winters in the Gulf States and southward, while the breeding range is difficult to make out, owing to the fact that it is not gregarious during the nesting season, but occurs scatteringly in isolated localities where it is most likely to escape observation.

The flight of this duck, according to "Water Birds of North America," is fully as swift as that of the passenger pigeon.

The nests are generally well lined with down, and when the female leaves the nest she always covers her eggs with down and draws the grass, of which the outside of the nest is composed, over the top. Professor Kumlein does not think that she ever lays more than twelve eggs. These are of a clear ivory white. They range from 1.89 to 1.95 inches in length and 1.25 to 1.35 in breadth.

The male whistles and the female "quacks."

The food of the blue-wing is chiefly vegetable matter, and its flesh is tender and excellent. It may be known by its small size, blue wings, and narrow bill.

The hind toe of this family of ducks is without a flap or lobe, and the front of the foot is furnished with transverse scales.

CINNAMON TEAL

Cinnamon Teals range more southerly and westerly than our other teal. The flight of the cinnamon teal is probably more rapid than that of other waterfowl except

CINNAMON TEAL.
½ Life-size

SHOVELLER
(Spatula clypeata)
About ½ Life-size.

NEST OF THE SHOVELLER.
(Spatula clypeata)
½ Life size

the canvas-back and blue and green-winged teal. These birds are prized by epicures, but fortunately they prefer mild climates, and many of them leave the haunts of the sportsman before the opening of the game season.

The males are beautiful birds, having plumage unlike that of any other waterfowl. Cinnamon teals are found on both fresh and salt water, but retreat to clear pools and streams to breed. They breed commonly in California and the Salt Lake region of Utah. The nests are placed on dry ground, usually in a thick clump of grass; six to twelve cream-colored eggs are laid from May 1st to June 10th.

SHOVELER

The Shoveler, or Spoonbill, is a bird of wide distribution, inhabiting all the continents and breeding in the northern portions of both hemispheres. It is a bird of striking individuality. The remarkable bill, the distinguishing feature, broadens at the end until it exceeds twice the width of the base, and assumes a spoon shape. Like other pond and river ducks, it is most abundant about fresh water.

It is a common summer resident of Minnesota and the Dakotas, thence it ranges northward through Manitoba, Assiniboia, and Alberta. During their semi-annual passage through Illinois, small flocks of shovelers are frequently seen on the Illinois and Kankakee rivers and on Lake Calumet. Usually they arrive from the south in March and by April the majority have paired, and soon move northward. In September and October its southern migration takes place to southern United States; it may occa-

sionally be found in Cuba and South America in December and January.

Sportsmen do not look on this duck with the same pride that they feel for a "bag" of canvas-backs or teal; yet the flesh of the spoonbill is considered delicious.

The female's note bears a resemblance to that of the mallard, an oft-repeated "quack." It retires in May and June to the lakes and marshes, chiefly those of the interior, to breed.

PINTAIL

The Pintail ranges throughout North America, breeding from Iowa and Illinois to the Arctic Ocean; wintering from Virginia southward to the Greater Antilles and Central America.

The gunner's sprig, or spike-tail, is not easily decoyed, being always suspicious of men. The pintails arrive in the Middle States with the first spring thaw, often late in February. They are strong fliers, frequently covering eighty miles an hour. Fresh-water ducks and feeding in shallow places by dipping or dabbling, their mode of feeding would make them highly palatable were they inclined to fatten, but one rarely finds a fat pintail. The female has a distinct low quack. They move about with some ease on land, appearing less awkward than most ducks.

The pintail resorts to the prairies of Minnesota, Dakota, and western Canada to breed. The nest is on a dry spot, sometimes a mile from water. The female scratches a hole in the earth and the eggs are deposited on a lining of dead grass, accompanied by a generous amount of down

PINTAIL DUCK

from the parent's breast. Eight to eleven pale ashy-green eggs are laid. The young are led to the water by the parent as soon as they emerge from the shell. Occasionally this bird nests on the lonely prairie of Iowa, Illinois, and Nebraska.

WOOD DUCK

The range of the Wood Ducks is quite extensive, covering temperate North America from Florida to Hudson Bay.

"Few, if any, more exquisitely beautiful creatures have been fashioned in the workmanship of Nature than the wood duck of America," are the words of Dr. Dawson, and to them we might add the words of Mr. Chapman: "Woodland ponds and various border streams make a proper setting for the grace and beauty of this richly attired bird." They do not quack, but have a pleasing and musical call—a sort of whistle.

These birds perch upon branches of trees, and are fond of acorns. They are not solely dependent upon aquatic plants and animals or even upon food which is found upon the ground, but also eat flying insects and young buds.

It seems too bad that because of unscrupulous hunters this gem of the woodland should be in danger of extermination. Then, too, the open season for ducks does not offer protection, as the hunting season opens before the southern flight of most waterfowl which nest in the far North has begun. Therefore, our summer ducks are for a time the only available game.

They build their nests and seek their food in unfre-

quented woods near the water. Favorite nesting places are hollow branches of trees, an old woodpecker's hole, or hollow stump, preferring holes that overhang the water or are near it. They will, however, often accept sites away from the water, in which case the parent removes the young in her bill to the water as soon as they are hatched, but the young do not return to the nest. The writer has eight eggs taken at Long Lake, Minnesota, May 21, 1903. The hollow tree in which the eggs were laid was profusely lined with down and feathers.

REDHEAD

The Redhead looks like a canvas-back, and is often mistaken for it; the difference is shown principally in shape of bill and upper head.

The redhead, or porchard, is one of our gamiest ducks, occurring throughout temperate North America, chiefly from the Great Lakes region westward. These ducks arrive from the south early in March, on the way to Dakota and Manitoba, where they are comparatively abundant.

The redhead decoys easily, but frequently feeds in large expanses of open water where the hunter is afforded no opportunity to approach within gunshot. The writer quotes the following from his article on "The Nesting of the Redhead Duck":

"They are very aquatic in their nesting habits, more so than any others of their family, except the canvas-back or ruddy duck, in whose company they are often seen during the breeding season. I discovered fifteen nests during one

RED HEADED DUCK
Lesser.

NEST OF THE REDHEAD DUCK
(Aythya americana)
¾ Life size

June in the Devil's Lake region in North Dakota. These nests were placed in tall grasses or reeds growing in water from one-half foot to three feet deep. In no instance were the eggs placed on the ground. The dry grass is massed together, forming a float, upon which the nest of practically the same material is placed. Frequently the birds construct a floating nest. It is a beautiful sight to observe the female as she leaves her nest, uttering a soft quack as she paddles out of sight among the tall grass."

Ten eggs taken June 3, 1900, were placed in a large nest containing one and one-half ounces of feathers and down, plucked from the breast of the parent bird. The down serves as a means of incubation during the duck's absence.

CANVAS-BACK

Few game birds are more celebrated than the Canvas-back: sportsmen and epicures find that it meets their ideal of game qualities. It flies rapidly and with directness, dives quickly, swims rapidly, and is remarkably wary and alert, while its flesh is considered incomparably delicious by many, especially if the bird has been feeding on the "water-celery," an abundant fresh-water plant, and its favorite food.

The canvas-back is peculiar to North America. Its nearest foreign relative is the red-crested porchard of Europe and Asia. The abundance of this noted game bird in the temperate regions is governed chiefly by the amount of water and the amount of "water-celery" found in any locality. It frequents both the Atlantic and Pacific coasts

during migration, but confines itself to the interior while breeding. It is rarely found in northern Illinois and Indiana, although a number of them have been taken at English Lake, Indiana; Fox Lake, Illinois, and also at Lake Koshkonong, Wisconsin. A few males were also observed by the writer at Chillicothe, on the Illinois River. Its favorite food grows in all these waters.

The canvas-back is fairly common throughout the Devil's Lake region of North Dakota, where it nests with the redhead among the grassy sloughs and pot-holes, or on the borders of marshy lakesides.

One of the first duck's nests the writer ever found was that of a canvas-back, while searching for American bittern's eggs, in the latter part of May, 1900, near Sweetwater Lake, North Dakota.

The nest, about the size of a bushel basket, but with a much smaller capacity, was securely anchored to several large clumps of marsh grass, over water several feet deep. It was a bulky affair, consisting of dry grass and hay, sparsely lined with down and feathers. An incomplete set of four fresh eggs in the nest were partly concealed by the wary female, which had attempted to cover them with down.

In Northwest Canada, the canvas-back nests abundantly in June, when it deposits from seven to twelve deep ashy-green elliptical eggs. Incubated eggs of this species, like the eggs of other Northern ducks, are usually surrounded by a quantity of down, plucked from the female's breast. The down of the canvas-back is much darker than that of the redhead, the latter having a grayish-white down, and the canvas-back's being slaty-gray or mouse-color.

LESSER SCAUP DUCK.

FRANK A. ABBOTT

NEST OF THE LESSER SCAUP DUCK.
(Aythya affinis)
About ½ lifesize

COPYRIGHT 1904, BY A. W. MUMFORD, CHICAGO

A single nest is frequently found containing eggs of both canvas-back and redhead, but usually only one duck sits on the eggs.

LESSER SCAUP DUCK

The Lesser Scaup, Little Black-head, Little Blue-bill, Creek Broad-bill, Raft-duck, and Flocking-fowl, are some of the numerous names applied to this species. Three varieties of scaup ducks inhabit North America—the greater scaup, the lesser scaup, and the ring-necked scaup. When migrating, the lesser scaup frequents both fresh and salt water, but during the breeding season it is usually seen in the interior.

In general appearance and habits, this duck resembles the great scaup, but averages one and one-half inches shorter. In many localities it is the most abundant duck; this is true of the Calumet region of northern Illinois and Indiana. The little scaup furnishes royal sport to the gunners, especially during October and April, being easily decoyed.

Many lesser scaups, especially the males, linger on Lake Michigan six months in the year; in fact, this bird has been recorded monthly from January to December.

The scaups are expert divers, often descending forty feet below the surface for their food. When pursued, wounded birds have been known to dive among aquatic plants and close their bills on some reed, remaining there until dead.

Like the chimney swift, a trio of birds are commonly observed flying together, usually a drake and two females.

Like certain other ducks, the lesser scaups do not breed

until they are two years old. This accounts for the appearance of lesser scaups upon southern Lake Michigan throughout the summer.

In Devil's Lake region of North Dakota the lesser scaup breeds, being a common summer resident save while nesting, it inhabits deeper water than other ducks, except the canvas-back and redhead. After June 1st a drake may be seen in company with several females paddling about in the grassy sloughs near nesting grounds. Scaups are partial to small islands which afford sufficient concealment for the nest. Six to eleven light olive-green eggs are laid.

THE RING-BILLED OR RING-NECKED DUCK*

This duck has many popular synonyms, among others Ring-billed, Ring-billed Shuffler, Ring-necked Scaup Duck, or Blue-bill Fall Duck (Minnesota), Black Jack (Illinois), Moon-bill (South Carolina). It is found throughout the whole of North America, south to Guatemala and the West Indies; breeding from Iowa, southern Wisconsin, Minnesota, and Maine northward. It is accidental in Europe.

The chief variation in the plumage of this species consists in the distinctness of the chestnut collar in the male, which is usually well defined, particularly in front. There is very little in its habits to distinguish it from the other "black-heads." Like them, it usually associates in small flocks. Its flesh is excellent, being fat, tender, and juicy.

W. L. Dawson, in "Birds of Ohio," says: "This elegant species bears a general resemblance to the lesser scaup, but is nowhere so common unless it be in Minnesota, the

RING BILLED DUCK

center of its breeding range. Unlike the scaup, it is never seen in large flocks, seldom in companies of above a dozen or twenty individuals; it shuns the open water, so much frequented by the blue-bills. In flight the individuals of a flock scatter widely, and they are likely to become still further separated as they feed in the rushes and deeper growth of the swamp. Here they subsist upon crayfish, snails, frogs, insects, and the various sorts of seeds which drop into the water from overhanging vegetation.

"When surprised, the ring-neck rises upon softly whistling wings, and beats a rapid retreat, while you notice the loose occipital feathers, ruffled by fear into a bushy crest, and observe that there is no white on the head to cause confusion with other crested species."

GOLDEN-EYE

The Golden-eye, or "Whistler," and decidedly a deep-water fowl, is a common winter resident on the Great Lakes and in the larger rivers. It occurs from coast to coast, but the Barrow's golden-eye chiefly replaces this form from the Rocky Mountains westward. A flock of golden-eye traveling with the wind at eighty miles an hour produces a sound with their wings from which the bird derives the name whistler. Feeding almost entirely on fish, they are not so good eating as are most ducks. These birds are expert divers, and sometimes are caught in nets which have been lowered into five fathoms of water.

During the spring, the golden-eyes retreat to the timbered lakes, near which each female selects a hollow tree,

where eight to fourteen beautiful bluish-green eggs are deposited. The writer found ten eggs, fourteen feet from the ground, in the hollow of an oak on a timbered peninsula jutting out into Devil's Lake, North Dakota. In passing he noticed little particles of down attached to the bark above the cavity. Inspection disclosed the incubating bird, which refused to leave her treasures until touched.

BUFFLE-HEAD

This beautiful little duck, known as Buffle-head, Butterball, or Spirit Duck, ranges from the Atlantic to the Pacific, migrating in October to the Gulf States and Mexico. A few remain in the northern portions of the northern tier of States, but the wild lakes of Ontario, Manitoba, and Alberta are the regions frequented during the nesting season.

It is the smallest of our deep-water ducks, not abundant, and seldom seen in large flocks. The large head of the males is covered with a crest of greenish-blue and white feathers, which they raise and lower, thus presenting a picturesque sight as they swim about on the water, diving with remarkable rapidity. Their flight is strong and rapid, making them a good mark for the sportsman.

Their food is principally fish and other small marine life, which they secure by descending into great depths of water.

Like the golden-eye, the wood duck, and the mergansers, the buffle-head deposits her eggs in hollow trees. It is remarkable how small an entrance will accommodate the

BUFFLE-HEAD
Clangula albeola

OLD SQUAW DUCK

female, which frequently uses the abandoned nest of a flicker. Light-colored down is used to cover the six to nine ashy-gray eggs, which continue to incubate while the parent is away.

THE OLD SQUAW DUCK*

Here is an instance where the female is the head of the family indeed, for by common consent the name includes the male of this species. It has numerous other names, however, as Old Wife, South-southerly, Long-tailed Duck, Swallow-tailed Duck, Old Injun (Massachusetts and Connecticut), Old Molly, Old Billy, Scolder (New Hampshire and Massachusetts).

The habitat of the Old Squaw is the northern hemisphere; in America, south in winter to nearly the southern border of the United States. It is distributed throughout the northern portions of the globe, but makes its summer home in Arctic regions. George Harlow Clarke, naturalist, Peary polar expedition, in a recent article, mentioned that, "In June the old squaw's clanging call resounded everywhere along shore, and the birds themselves were often perceived gliding to and fro amid the ice cakes drifting with the tide between the main ice-floe and the land." It is a resident in Greenland, and breeds in various places in Iceland. The nests are made on the margins of lakes or ponds, among low bushes or tall grass, are constructed of grasses, and generally, but not always, warmly lined with down and feathers. The eggs are from six to twelve in number. In the United States the long-tail is found only in winter. Mr. Nelson found it to be an abundant winter resident on Lake Michi-

gan, where the first stragglers arrived about the last of October, the main body arriving about a month later and departing about the first of April, a few lingering until about the last of the month.

THE HARLEQUIN DUCK*

Harlequin is not the only name by which this bird is known. In the New England States and northward along the Atlantic coast it is frequently called the "Lord and Lady," because of the white crescents and spots of its plumage and the proud bearing of the male. It is also called the Rock Duck, the Mountain Duck, and the Squealer. Its range covers the northern portion of North America, Europe, and Asia. It breeds only in the northern part of its range.

The sexes vary greatly. While the male, which is the sex of the bird of our illustration, is brightly colored, the female is much more somber. The young resemble the adult female.

The food of the harlequin consists almost entirely of parts of aquatic plants and the smaller crustaceans and mollusks.

Its nest, though usually placed on the ground, is sometimes built in the hollow of a tree or hollow stump, though always near a body of water. The nest is usually a simple structure made of the stems of water plants, twigs, and grass, thickly lined with the downy feathers from the breast of the duck. The eggs are occasionally laid on the grass, and no effort is made to build a nest. The female thoroughly covers the eggs when she leaves the nest.

HARLEQUIN DUCK.
(Histrionicus histrionicus)
½ Life-size.

COPYRIGHT 1901, BY A. W. MUMFORD

WHITE WINGED SCOTER
[illegible]

The number of eggs varies from six to eight, though ten have been recorded. They are of a "yellowish-buff or greenish-yellow" color.

WHITE-WINGED SCOTER

The Scoters are partial to the sea coast. Among the hunters they are known as "sea coots." Three scoters are common to the American continent; the other two are the Surf Scoters, commonly called the Surf Duck, or Patch-head Coot, and the American Scoter, known as the Butter-billed Coot. The White-winged Scoter inhabits both the Atlantic and Pacific coasts, and is found on the Great Lakes during the winter months.

The flight is slow and peculiar. The males are striking in appearance, with their glossy black feathers broken only by white patches on the wing and a small white patch above the eye; the iris is white, the bill yellow and red.

Large flocks of these birds congregate annually during the summer months among the outer islands of Casco Bay, Maine, but they have never been found breeding in this territory. This is one of the strongest evidences to many that the white-winged scoter's nesting habits are unknown, because they disappear from regions where they are common except during June and July.

During these months they breed on large inland lakes in Canada and northern United States, especially in the Devil's Lake region of North Dakota, as they seem to enjoy its alkaline waters. A peculiar characteristic is the southward flight made by these birds when they appear at

Devil's Lake in June to breed, as they arrive direct from the North to rear their young in the treeless tracts of the Dakotas.

The nests are usually slight hollows in the earth under a tussock of grass or a small bush on dry ground where the lake forms a hard shore.

THE SURF SCOTER*

The Surf Scoter is also known by several other popular names, such as the Surf Duck, the Surf or Sea Coot, and, not infrequently, the Booby. The name Velvet Duck, though more commonly applied to the white-winged scoter, is also sometimes used to designate this species.

This scoter is an American species, and is only an accidental visitor to European coasts. Its range includes the "coasts and larger inland waters of northern North America; in winter, south to Florida, to the Ohio River, and to San Quentin Bay, Lower California."

Our illustration is that of a male bird. The female is a sooty brown, silvery-gray below, and with much white on the sides of the head.

The note of the surf scoter is to me the most pleasing of all the ducks. It is a soft, mellow whistle, ending in a "cluck! cluck!"

Mr. Nelson states that the surf scoter appears in the vicinity of St. Michaels, Alaska, about the middle of May, and nests commonly in the marshes of the delta of the Yukon River. It also nests in large numbers on the Atlantic Coast, from Labrador northward.

812

SURF SCOTER.
(Oidemia perspicillata.
Adult Male.

316

RUDDY DUCK

Its nest, usually placed on grassy knolls, in fresh-water marshes near the sea, is made of dried weeds and grasses and lined with the down of the bird. It is evident that the female performs all the duties of incubating the eggs and caring for the young, for during the nesting period large flocks are observable that consist entirely of males, constantly feeding in their accustomed haunts.

This ocean duck feeds "on small mollusks and fishes, for which it dives almost constantly, both in the sandy bays and amidst the tumbling surf, sometimes fishing at the depth of several fathoms and floating buoyantly among the surf of the raging billows, where it seems as unconcerned as if it were on the most tranquil waters."

RUDDY DUCK

The Ruddy Duck is distributed generally from northern South America to Hudson Bay, breeding mostly in Canada, though locally farther south. This duck is more common west of Indiana and Michigan. In the Great Lakes region they are known chiefly as migrants, but in Utah, Colorado, and California this odd-looking duck is a summer resident. They frequent both fresh and salt water, flying low over the surface.

Ruddys are comparatively small ducks with flat bodies and stiff tail feathers held erect while swimming. The feet are extremely large, and the birds swim rapidly both under and above water. In rising it runs on the surface of the water against the wind.

Like the redhead and canvas-back, this bird constructs

a floating nest, from which the parent quickly swims at the approach of danger. The eggs, six to twelve in number, are immense for the size of the bird, even exceeding those of the large mallard and canvas-back. The granulated shell lacks the oily polish found on most duck eggs.

THE WHITE-FRONTED GOOSE*

White-fronted or Laughing Geese are found in considerable numbers on the prairies of the Mississippi Valley. They are called Prairie Brant by market-men and gunners. Though not abundant on the Atlantic seaboard, vast flocks may be seen in the autumn months on the Pacific Slope. In Oregon and northern California, some remain all winter, though the greater number go farther south. They appear to prefer the grassy patches along streams flowing into the ocean, or the tide-water flats so abundant in Oregon and Washington, where the Speckle-bellies, as they are called, feed in company with the Snow Geese. The nesting place of this favorite species is in the wooded districts of Alaska and along the Yukon River. No nest is formed, from seven to ten eggs being laid in a depression in the sand.

It is said that notwithstanding all references to their ungainly movement and doltish intellect, the wild goose, of which the white-fronted is one of the most interesting, is held in high estimation by the sportsman, and even he, if keen of observation, will learn from it many things that will entitle the species to advancement in the mental grade. There is probably no bird more cautious, vigilant, and fearful at danger than this.

AMERICAN WHITE-FRONTED GOOSE

The white-fronted goose is greatly esteemed for the excellent quality of its flesh, which, by those who have learned to appreciate it, is generally considered superior to that of any other species. While the cruel pursuit of the bird merely for purpose of sport ought not to be continued, appreciation of its value as food may well be encouraged.

CANADA GOOSE

The Canada Goose ranges throughout temperate North America, breeding in the West, on the ground or sometimes in trees near streams.

This is the typical wild goose, and, in the estimation of many sportsmen, the wariest and gamiest of the feathered tribe. In the fall and early spring, large flocks of these geese may be seen moving slowly overhead. It is the general supposition that these "honkers" are on the way north or south, but they are much hardier than we generally suppose. Many Canada geese winter about Lake Michigan, spending the day far out in open water where there is no danger of molestation. At sundown they rise in V-shaped flocks and move inland to feed in grain fields.

Because of its intelligence, the Canada goose gives promise of holding its own despite the increase of gunners. It would be a shame to lose this picturesque and stately bird, as the United States can now claim few as summer residents, while fifty years ago it was with us twelve months in the year.

In 1900, while collecting in North Dakota, I unexpectedly chanced upon a pair of these birds leading five downy

young across the prairie not far from open water. I hastened toward the group, when the old birds rose and flew toward me, flapping about my head in a threatening manner; a bird with such strength of wings is capable of putting up quite a fight. As I stood watching the antics of old birds, the goslings reached the lake and swam rapidly from shore. It was an impressive sight to see these two naturally shy birds so fearless of man in their efforts to protect their offspring.

Many geese do not breed until they are two years old, which fact may explain the presence of small flocks in breeding season in temperate regions where they are not known to nest. I have six large white eggs of the Canada goose, taken in Illinois some years ago, when a few still nested along the Mississippi. The nest was placed on the ground at the edge of a little pond not far from the "Father of Waters."

On the lakes of Manitoba, these birds construct their huge nests on the islands in company with herring gulls and cormorants. The nests are composed of weeds and debris, warmly lined with down from the breast of the parent.

THE BLACK BRANT OR BRANT GOOSE*

The Black Brant, or the Brant Goose, as it is frequently called, is not the brant of the Atlantic coast, but a western bird, ranging from Lower California to the Arctic region of North America. On the Atlantic coast it appears only as a casual visitor, and it is not found in the interior. It makes its summer home in very high latitudes and on the

Pacific coast; the southern limit of its nesting range seems to be about the latitude of the mouth of the River Yukon. Dr. William H. Dall has said that in the spring it comes in immense flocks to the sea coast of Alaska, and he found the crop of one of these birds to be full of small crustaceans, though, as a rule, it partakes only of a vegetable diet, feeding chiefly upon eel-grass.

During the time of low tide the brant feeds constantly, tearing up the plants by the roots from the muddy flats. Unlike the sea ducks, it does not dive for its food, and it is said that it will never dive except when wounded. It passes the night hours floating on deep water in the open sea. It is a noisy bird, and quarrelsome with its kind. Being of a very inquisitive nature, it is easily attracted to decoys. It is, therefore, one of the easiest marks for the hunter; and consequently there are an exceedingly large number of these toothsome geese shot each year for the markets.

Its note is "hoarse and honking," and when a flock gabbles in company, as they often do when feeding, the sound cannot be described better than to call it a perfect din.

It is said that the nest of the black brant is usually situated in a depression in the ground and consists of grasses and moss, lined with down.

Both the black brant and its eastern relative (Branta bernicla) are sometimes called "barnacle geese." This name is said to have had its origin in a fable which narrates that they were developed out of barnacles attached to wood in the sea. Dr. Coues says that the name brant means burnt, and it was given to these birds because of their dark color, which suggests charring.

THE FULVOUS TREE-DUCK*

The Tree-ducks are natives of tropical or semi-tropical countries. Two species are found in the United States, the bird of our illustration and the Black-bellied Tree-duck. The range of the fulvous species extends from the southern border of the United States, and in Nevada and California, southward through Mexico, and reappears in the southern portion of Brazil and in the Argentine Republic. It has also been reported as a visitor to the States of North Carolina and Missouri.

Mr. Frank M. Woodruff, in speaking of his experience while on a collecting tour in Texas, says: "I found the Fulvous Tree-duck in small numbers resident on Galveston Island, but found them abundant and nesting in the heavy timber along the Brazos River, sixty miles from Galveston. In the early morning, as we would leave our boat and make our way to our blinds, on some small inland pond where we had prepared for collecting, we would flush immense flocks of this duck, which would fly over our heads at rather a low altitude, and continuously calling. On several occasions we obtained specimens by firing into a flock while it was still so dark that we could scarcely define the outlines of the individual birds. The fulvous tree-duck generally feeds in the night, and usually at a place several miles from the nesting site. They leave the feeding grounds on the first sign of approaching day. During my stay of three months in the Brazos River region, only on one or two occasions did I have an opportunity to observe this bird by

the light of day. In form it resembles a miniature swan. It stands very high on its legs and presents a wonderfully curious and graceful appearance as it walks along the shore, feeding on shellfish and decaying matter.

"Owing to the nature of its diet, which consists chiefly of grain, roots, and water plants, the flesh of this bird is esteemed as an article of food, and many are killed for such.

"Nest: Located in the hollow of a tree, the bottom of the cavity usually being lined with feathers. They lay from ten to fifteen pure white eggs, and as many as thirty-two have been found in one nest, but these were probably laid by two or more females."

CHAPTER VI

WADING BIRDS

Flamingoes are tropical birds. Of the seven species included in the order, only one reaches North America. Flamingoes are gregarious throughout the year. Feeding in shallow bays or mud flats, they are rarely found far from the coast. They feed similar to ducks, having same strainer nature of bill.

Spoonbills are mostly tropical birds, only one species inhabiting the United States. They are gregarious, nesting in colonies. While general habits resemble those of the herons, they immerse their large, flat, sensitive bill and feed by swinging it from side to side.

Ibises are usually tropical birds. Of thirty species, only four are to be found in North America. These silent, gregarious birds feed along the shallow lagoons, bays, and mud flats, usually of salt water. The peculiar bill is adapted to taking and crushing crustaceans; it also eats frogs, small fish, and reptiles.

Herons and bitterns have a general distribution, though they are most numerous in the tropics. Herons are gregarious; even when they feed singly they nest and roost in flocks. Bitterns are usually found singly or in pairs. They select grassy marshes for feeding, while herons prefer the shores of sea, lake, or river. Protective attitude and color of bitterns are marked. Some herons await their prey in

shallow water, while others run through water and carry on an aggressive campaign, spearing frogs and fish as they attempt to escape. Herons fly with neck arched over shoulders.

FLAMINGO

Flamingoes are tropical or sub-tropical birds distributed throughout favorable sections of the Atlantic coast of both hemispheres. Five varieties are American, only one of which reaches North America. They are gregarious birds and are to be found in colonies during both the breeding and migrating seasons. Showing a decided preference for still and brackish water, one seldom encounters these large birds far from the sea coast.

The construction of the strainer bill is peculiar; the portion joining the head is almost at right angles with the outer half of the beak. The beak of the young is straight like that of a duck, gradually assuming an angle. Their mode of separating the edible matter from the waste is the same process used by ducks, but of course the latter pushes the bill forward as a spade, while the former uses the bill more as a hoe because of long neck.

The plumage is light salmon, bordering on pink or light rose. The feathers on some parts of the body are lighter. In confinement and in mounted specimens the plumage loses the bloom so that the feathers become several shades paler. This undoubtedly is due to the lack of some essential article obtained in the natural diet when in the wild state.

These birds nest in the islands south and east of Florida. Extensive mud flats slightly flooded at high tide are the

FLAMINGO

ROSEATE SPOONBILL.
Ajaia ajaja.

favorite nesting grounds. Scraping together a quantity of the wet earth until there is an elevation of from six to twelve inches, it is slightly hollowed at the top, but not lined. While incubating her single egg, the female folds the legs under the sides, as do other long-legged birds, thus dispelling the popular belief that the flamingo sits astride her nest.

The long, white or pale greenish-white eggs have the surface so thickly coated with soft lime that the chalky substance is left on the hand when handling specimens.

Occasionally these birds in their wanderings touch the extreme southern coast of Florida, but they do not breed on that peninsula.

ROSEATE SPOONBILL

These beautiful aquatic birds are found both on the coast and in the interior. Of the half-dozen varieties of spoonbills, the Roseate Spoonbill is the only form inhabiting North America. Their range is becoming more restricted yearly. Years ago the species occurred in southern Illinois and Indiana. About the only section of the United States where this bird is now found in any numbers is along the gulf coast of Texas, ranging from there southward into South America. The principal cause for the extinction of this species in most of its former range is beauty, the same cause that led to the fate of the snowy herons, slaughtered for the "aigrettes."

Like our large herons, they are gregarious, but their mode of feeding is entirely different from that of our other American birds, except the avocet. They feed by swinging

the bill from side to side through the water; the edges of the sensitive mandibles recognize the nature of substances touched, so that the bird finds food in muddy water.

In former years the spoonbills nested in large colonies in various swampy places in Florida. A large, bulky structure of sticks is usually arranged by the birds in small shrubs and little trees growing in or near the water. Three or four eggs are usually laid, the background being white and the markings light brown.

WHITE IBIS

The White Ibis resembles the ancient sacred ibis of the Nile, while in habits it resembles the heron, crane, and bittern. Inhabitants of warm climates, in America their range is becoming restricted yearly. Four varieties occur in North America; the wood ibis and the white-faced, glossy ibis, like the white ibis, are peculiarly American, while the scarlet ibis is an accidental visitor. Some years ago the white ibis was found in the southern swamps of Illinois and Indiana. Of late years they have retreated to the wooded sections of Florida, Texas, and other Gulf States.

Ibises are gregarious, but, unlike the herons and cranes, are almost silent birds. Their food is chiefly animal matter, such as frogs, crawfish, and minnows. Their large beak is well adapted for extracting and crushing crawfish.

The flight of the white ibis, like that of the white pelican, is picturesque. They move in close ranks, alternately flapping and sailing, all birds moving the wings simultaneously. As they pass through the sunlight the plumage glistens and

SCARLET IBIS.
½ Life-size.

COPYRIGHT 1921 BY A. W. MUMM & CO. BERLIN

the black markings on the wings show in marked contrast to the otherwise immaculate plumage.

Their nests are placed in low thickets, frequently above the water. Like the nest of the heron, it is a rude affair of sticks and moss, arranged in the form of a platform, with a slight depression in which three or four bluish-white eggs are laid. The eggs are heavily blotched with scarlet, but the markings appear somewhat smeared, giving the eggs a dirty appearance.

THE SCARLET IBIS*

Ibises are distributed throughout the warmer parts of the globe and number, according to the best authorities, about thirty species, of which four occur in North America. The scarlet ibis is a South American species, though it has been recorded from Florida, Louisiana, and New Mexico. The ibises are silent birds and live in flocks during the entire year.

They feed along the shores of lakes, bays, and salt-water lagoons, and on mud flats over which the tide rises and falls. Their food consists of crustaceans, frogs, and small fish.

Colonies of ibises build nests in reedy marshes, or in low trees and bushes not far from good feeding-grounds. Three to five pale greenish eggs, marked with chocolate, are found in the coarse, bulky nest of reeds and weed stalks.

These birds are not so numerous as they once were. They have been wantonly destroyed for their plumage alone, the flesh being unfit for food. Their beautiful plumage is the cause of their rapid extinction.

THE WHITE-FACED GLOSSY IBIS*

Only the most meager accounts exist of this little known and irregularly distributed species. It remained undiscovered in America until 1817, when Mr. Ord took a specimen on the eastern coast of New Jersey. Although at first described under a new name, it is now known to be identical with the Old World species, which thus enjoys a wide and rather remarkable range. (Dawson.)

The beautiful, lustrous White-faced Glossy Ibis inhabits the southwestern United States and tropical America. It is found as far north as Kansas and west through New Mexico and Arizona to California. In southern Texas it is very abundant, and in some localities along the banks of the Rio Grande swarms by thousands. The nests and eggs of the ibises are quite unlike those of any of the herons, and can be distinguished at a glance. The nests are made of broken bits of dead tules, supported by and attached to broken and upright stalks of living ones. They are rather well and compactly built, quite unlike the clumsy platforms of the herons. The eggs are nearly always three in number.

The walk of the ibis is quiet and deliberate, though it can move over the ground with considerable speed whenever it chooses. Its flight is lofty and strong, and the bird has a habit of uttering a loud and peculiar cry as it passes through the air.

The food of the ibis consists mostly of mollusks, both terrestrial and aquatic, but it will eat worms, insects, and probably the smaller reptiles.

The sexes have similar plumage, but the female is smaller than her mate.

BITTERN

The Bittern ranges throughout temperate North America and winters from Virginia south.

One of the most familiar marsh birds, it is known under many aliases, such as thunderpump, Indian hen, stake driver, and bull goose. This interesting creature is not a game bird, but because of its sluggish nature is often the victim of the ruthless hunter. To escape detection, bitterns assume a pose extending the head and neck skyward, thus resembling a stump with a dead sprout at the side. Bitterns stand motionless for hours in shallow water, until some fish, frog, or reptile comes within striking distance.

This bird breeds commonly throughout the East and Middle West, from New York, Illinois, and Iowa northward. The nests are usually composed of dead reeds and rushes, a mere platform with little or no cavity. From three to six eggs are laid, and the period of incubation is twenty-one days.

During the mating season the birds produce a remarkable vocal sound, not unlike that produced when driving a stake with a hammer. This performance has earned them the title of "stake-driver." The notes run something like this: "Quack, chunk, chunk, quack, quackalunk, chunk, chunk, quack um chunk, quack, quackalunk, chunk."

One excited female bittern disgorged eleven crawfish and seven frogs before I could persuade her to vacate her nest, which contained five coffee-brown eggs.

LEAST BITTERN

The Least Bittern ranges throughout temperate and tropical North America, wintering south.

This beautiful bird is of a retiring disposition, though not averse to living in a noisy environment, provided it is unmolested in its home among the tall grasses and rushes of marshes. Several authors speak of the least bittern as a "silent bird," although the writer has frequently seen and heard it utter a peculiar "squeak," especially if suddenly approached. It loves to lurk in the reedy borders of boggy ponds and marshy lakesides where gallinules and rails abound. An interesting habit of this bird is that of perching on an upright reed, where, with its neck extended, it remains motionless, closely resembling in color and form a bunch of dead reeds, in order to escape detection. While pushing my boat among the rushes during a rainstorm I once saw a least bittern roosting in a clump of vegetation, with its head drawn between its shoulders, oblivious to its surroundings. I gently touched it, when "Rock, rock!" it seemed to call, and in its sudden efforts to escape lost its equilibrium and fell into the water.

Its nest of grasses, etc., is placed among reeds or in a small bush; three to six bluish-white eggs are laid.

GREAT BLUE HERON

The name Great Blue Heron, often called Blue Crane and Sand Hill Crane, is misleading, as the prevailing color of the adult is slaty gray.

129

LEAST BITTERN

½ Life-size.

NEST OF THE LEAST BITTERN
Ardetta exilis
½ Life-size

159

GREAT BLUE HERON.
Ardea herodias.

COPYRIGHT

This bird is found from the Atlantic to the Pacific, breeding in colonies north of the Ohio River, throughout the Great Lakes region, and the Canadian provinces. It winters from Middle States southward to northern South America. River bottoms and tamarack swamps are resorted to immediately upon their arrival from the South in April. The birds travel great distances to fish, usually singly. Unlike the bitterns, herons do not stand motionless waiting for their prey to come within reach, but move about in shallow water, striking with their bill any form of animal life that appears near the surface.

Their notes are coarse, discordant croaks. This species is not suffering destruction at the hands of the plume hunter, so are still found in great numbers along the river bottoms of the Kankakee and the Illinois.

Places where they assemble to nest are called "heronries." Some huge trees contain as many as forty nests, all of which may be occupied at the same time; the ground or shallow water beneath these nesting trees is offensive with decaying fish.

The trees occupied by the nests usually die after the second or third year, but the nests are used after the trees are dead. The three to five light blue eggs require four weeks' incubation, and the young leave the nest after sixty or seventy days. In some of our treeless sections these birds have adapted themselves to conditions by constructing huge nests on the ground. The writer saw a colony of about two hundred pairs along the Yellowstone River in Montana, and several other heronries exist on the barren alkali tracts of California.

THE SNOWY HERON*

Temperate and tropical America, from Long Island to Oregon, south to Buenos Ayres, may be considered the home of the Snowy Heron, though it is sometimes seen on the Atlantic Coast as far as Nova Scotia. It is supposed to be an occasional summer resident as far north as Long Island, and it is found along the entire Gulf Coast and the shores of both oceans. It is called the Little White Egret, and is no doubt the handsomest bird of the tribe. It is pure white, with a crest composed of many long, hair-like feathers, a like plume on the lower neck, and the same on the back, which are recurved when perfect.

Snowy herons nest in colonies, preferring willow bushes in the marshes for this purpose. The nest is made in the latter part of April or early June. Along the Gulf Coast of Florida they nest on the Mangrove Islands, and in the interior in the willow ponds and swamps, in company with the Louisiana and Little Blue herons. The nest is simply a platform of sticks, and from two to five eggs are laid.

Alas! plume hunters have wrought such destruction to these lovely birds that very few are now found in the old nesting-places. They will soon become extinct unless the barbarous practice of wearing feathers be stopped.

The little egret moves through the air with a noble and rapid flight. It is curious to see it pass directly overhead. The head, body, and legs are held in line, stiff and immovable, and the gently waving wings carry the bird along with a rapidity that seems the effect of magic.

70

SNOWY HERON OR LITTLE EGRET

LITTLE BLUE HERON

The Little Blue Heron is found from New York, Illinois, and Kansas southward through Mexico and Central America to South America and the West Indies. It is of accidental occurrence as far north as Maine and Wisconsin.

The name "little blue" is somewhat misleading, as adult birds are a maroon color on the head and neck; the rest of the plumage is grayish or slaty. Immature birds are pure white, with the exception of a faint grayish tinge near the tips of the wings. The young, therefore, look very much like the snowy egret.

These birds often breed in company with snowy and Louisiana heron. Their eggs, like those of all other herons, are light blue, unspotted. The nests are mere platforms of sticks. The writer has four eggs taken from a nest placed eight feet above the water, in a willow where yellow-crowned night herons were nesting in company with the little blue herons, in one of the Georgia swamps.

THE LITTLE GREEN HERON*

One of the smallest of the herons, and one of the most common in many localities, is the Little Green Heron, familiarly known to the rural Hoosier boy as the "Schytepoke" and to others as the "Poke."

The little green heron arrives in the Northern States and Canada from its winter residence in Florida, or farther southward, about the last of April, and immediately begins

nesting, selecting, if convenient, second-growth timber, especially if there be a thicket of undergrowth. But if these conditions be not at hand, it seems to prefer, as a site for its nest, an old, abandoned orchard, or at least one somewhat remote from human habitation, but not very far distant from a stream or pond. In the fork of some tree, ten to twenty feet above ground, is collected a considerable-sized but irregular and loose bundle of rough sticks. In this, by the middle of May, or at times even earlier, it lays from three to six greenish-blue eggs, about an inch and a half long by an inch and a quarter in diameter.

It is quite interesting to see one of these herons feeding. It will wade along the edge of a pond or stream, very slowly lifting its feet out of the water and carefully putting them down again. Its neck is folded so that it almost disappears, the head being drawn back against the shoulders. At last it sees an unwary minnow swimming lazily along. Slowly and carefully it leans its body forward and downward toward the water, the long legs looking and acting almost like stilts; still more slowly the head, with its long, stout beak, moves cautiously toward the water surface, very much like a young turkey seeks to capture a grasshopper. Then, suddenly, as if a spring had been set free in its neck, the head is thrust downward until the beak, or more, disappears beneath the surface, but only to reappear immediately with the struggling minnow or sunfish between its mandibles, and walking out on the bank a safe distance, with two or three strokes of his strong beak he stuns the fish, which in another moment has started head first down the heron's throat.

HENRY H. LANE.

GREEN HERON

BLACK-CROWNED NIGHT HERON.

BLACK-CROWNED NIGHT HERON

The Black-crowned Night Heron, or "Quawk," breeds chiefly in the United States; it also breeds in southern Canada from New Brunswick to British Columbia, wintering from the Gulf States to South America.

This bird might more properly be called the bridled heron, as the males have two feathers, four to eight inches long and scarcely one-tenth of an inch in breadth, attached to the back of the neck. The name "black-crowned" is derived from the steel blue feathers on the head.

These birds are gregarious and move about both by day and night. As the sun is setting they may be heard giving their noisy cries, from which come the name "Quawk," while moving slowly, with deliberate wing-beats, in single file like troops.

Black-crowned night herons, like other night herons, remain hidden by day in some secluded piece of timber preening their feathers. Herons are wading birds, but are not very active, and seem contented in dry territory after satisfying their appetites with food, principally aquatic animals. Having favorite feeding-grounds, they often travel twenty or thirty miles to feed in the same marsh.

A bird lover discovered a heronry of these birds in a growth of coniferous trees in Kankakee County, Illinois. The nests were placed so close together that it was possible to inspect the contents of twenty-seven nests without descending to the ground, some trees containing as many as fifteen nests.

Four to six light blue eggs are laid in a nest, usually composed of coarse twigs arranged in the nature of a platform. While in the Devil's Lake region of North Dakota, I encountered these herons nesting in the treeless sections. The nests, resembling those of bitterns, were built in dense reeds and rushes bordering fresh-water lakes. Black-crowned night herons breed chiefly in the United States from the Atlantic across the continent to British Columbia.